

78206

3-612

217967

STIC-Biotech/ChemLib CRFD

From: Chan, Christina
Sent: Monday, March 12, 2007 11:41 AM
To: Li, Bao-Qun; STIC-Biotech/ChemLib
Subject: RE: 10789355

Please rush. Thanks Chris

Chris Chan
TC 1600 New Hire Training Coordinator and SPE 1644
(571)-272-0841
Remsen, 3E89

3 C 18

-----Original Message-----

From: Li, Bao-Qun
Sent: Monday, March 12, 2007 9:13 AM
To: Chan, Christina; STIC-Biotech/ChemLib
Subject: 10789355

Please prove the rush order of alignment analysis of SEQ ID NO: 5 with SEQ ID NO: 2, 4, 6, 7, and 25.
Thank you.

Bao Qun Li M.D
TC 1600
Art Unit 1648
Tel. 517-272-0904
REM. 3C18
Rm. 3D24

2 na 8642
4 na 8643
6 na 8638
7 na 8638
25 na 8638

119

May

3/12/2007

58822	GGGTCAATCAAATACCTGTTGGTCAGCTCCATCTGAGGCCAACCGSAGCTAGCA	5881	D _b	6902	CTGACGCCACATCGGCCAGATCTAATTGGTATGGGCAGAAGGACTCCGGAAAC	6961
58822	GGGTCAATCAAATACCTGCTCAGGCCAACCGSAGCTAGCA	5881	Q _y	6962	CTATCGAGGCCGTTAACCATCGCTCGTGGGACTCTGGAGACTCTGGAGACCT	7021
58822	GTCGTCACTCCATGCTCACCGAACCTCCACATTAGGCGGAGACCGTAAGCTAGG	5941	D _b	6962	CTATCGAGGCCGTTAACCATCGCTCGTGGGACTCTGGAGACTCTGGAGACCT	7021
58822	GTCGTCACTCCATGCTCACCGAACCTCCACATTAGGCGGAGACCGTAAGCTAGG	5941	Q _y	7022	GAGACCCAATTGACACCACCATGCGAACAAAATGAGGTTTCTSGTCTAACCGAG	7081
59412	CTGCCAGGGATCTCCACCTCTTGGCGACGCTCATAGTAGCCAGCTGCTGGCCC	6001	D _b	7022	GAGACCCAATTGACACCACCATGCGAACAAAATGAGGTTTCTSGTCTAACCGAG	7081
59412	CTGCCAGGGATCTCCACCTCTTGGCGACGCTCATAGTAGCCAGCTGCTGGCCC	6001	Q _y	7082	AAGGGGGGCCAACGGCGCTGCGCTTATCGTATTCAGATGGCTAACCGAG	7141
6002	TCCPTGAAGCAAATGCCACTACCCGCTATGACTCCGGACCTGAGCTGGGCC	6061	D _b	7082	AAGGGGGGCCAACGGCGCTGCGCTTATCGTATTCAGATGGCTAACCGAG	7141
6002	TCCPTGAAGCAAATGCCACTACCCGCTCTGGCGACGCTCATAGTAGCCAGCT	6061	Q _y	7142	GAGAAATGGCCCTTACAGTGTGCTCACCCCTCAGGCCGCTGATGGCTCTTC	7201
6062	AACTCCCTGGGGCAGGGAGATGGGGAAACATCACCCGGTGGAGATGGCTAGA	6121	D _b	7142	GAGAAATGGCCCTTACAGTGTGCTCACCCCTCAGGCCGCTGATGGCTCTTC	7201
6062	AACTCCCTGGGGCAGGGAGATGGGGAAACATCACCCGGTGGAGATGGCTAGA	6121	Q _y	7202	TACGGATTCCAAATACTCTGGACAGGGGTCGAGTTCTGTGATGTTGGAAAGCG	7261
61122	GTCGTAATTGGACTCTTGAGCCGTTCAAGCGGAGGATGAGGGAAAGTATTC	6181	D _b	7202	TACGGATTCCAAATACTCTGGACAGGGGTCGAGTTCTGTGATGCTGGAAAGCG	7261
61122	GTCGTAATTGGACTCTTGAGCCGTTCAAGCGGAGGATGAGGGAAAGTATTC	6181	Q _y	7262	AAGAAATGCCCTATGGCGCTTGGCATATGACACCCGGTGTGTTTGACCTGAG	7321
61182	GTTCGGGGAGATCTGGGAGETCCAGAAATTCCCTGAGCGATSCCCATATGGCA	6241	D _b	7262	AAGAAATGCCCTATGGCGCTTGGCATATGACACCCGGTGTGTTTGACCTGAG	7321
61182	GTTCGGGGAGATCTGGGAGETCCAGAAATTCCCTGAGCGATSCCCATATGGCA	6241	Q _y	7322	AATGACATCCGTTGAGGAGTCATACTACCAATATGTTGACTGCTGGCCCCAG	7381
6242	CGCCGGATTAACACCCCTACAGCTGGAAAGGACCCGGTACCTCCCTCCA	6301	D _b	7322	ATGACATCCGTTGAGGAGTCATACTACCAATATGTTGACTGCTGGCCCCAG	7381
6242	CGCCGGATTAACACCCCTACAGCTGGAAAGGACCCGGTACCTCCCTCCA	6301	Q _y	7382	CAGGCCATAAGCTGGCTCACAGGCCCTTACATCGGCCCTCTGACTTAATCTAA	7441
6302	GTCGTAACGGGTTCTGCTCAGAAATCTACCGTCTCGCTTGGGAGCTGCCAA	6361	D _b	7382	CAGGCCATAAGCTGGCTCACAGGCCCTTACATCGGCCCTCTGACTTAATCTAA	7441
6302	GTCGTAACGGGTTCTGCTCAGAAATCTACCGTCTCGCTTGGGAGCTGCCAA	6361	Q _y	7442	GGCGCAGACTGGCCATCGCCGTTGCCGGGAGGGGCTACTGAGCAGGCTGGGT	7501
6362	AAGAGGACCGTTCTGCTCAGAAATCTACCGTCTCGCTTGGGAGCTGCCAA	6421	D _b	7442	GGCGCAGAACTGGGTTATCGCCGTTGCCGGGAGGGGCTACTGAGCAGGCTGGGT	7501
6362	AAGAGGACCGTTCTGCTCAGAAATCTACCGTCTCGCTTGGGAGCTGCCAA	6421	Q _y	7502	AATACCTCTACATGTTACTGAGGGGCTGGCTGTGAGGAACTCCAGAGAC	7561
6422	AAGACCTTGGCAGCTCCAAATCTGCGCTGAGACGGCAGGCCAACGGCTCT	6481	D _b	7502	AATACCTCTACATGTTACTGAGGGGCTGGGCTGTGAGGAAAGTCCAGAGAC	7561
6422	AAGACCTTGGCAGCTCCAAATCTGCGCTGAGACGGCAGGCCAACGGCTCT	6481	Q _y	7562	TGACACGATGCTGTTGAGGAGCTGGCTATCTGTGAAACCGGGGACCCAA	7621
6482	GACCAAGCTCCGAGCAAGCGAGGGAATCCGAATCTACCGTCTCGCTTGGGAG	6541	D _b	7562	TGACACGATGCTGTTGAGGAGCTGGCTATCTGTGAAACCGGGGACCCAA	7621
6482	GACCAAGCTCCGAGCAAGCGAGGGAATCCGAATCTACCGTCTCGCTTGGGAG	6541	Q _y	7562	CAGGACAGGGCCCTAACAGAAATACTGAGCTTGGGCTCTCCCTCAATGTG	7741
6542	CCCTTGAACGGGGACCCGGATCCGAATCTACCGTCTCGCTTGGGAG	6601	D _b	7562	CAGGACAGGGCCCTAACAGAAATACTGAGCTTGGGCTCTCCCTCAATGTG	7741
6542	CCCTTGAACGGGGACCCGGATCCGAATCTACCGTCTCGCTTGGGAG	6601	Q _y	7682	GGGGACCCGGCCACCTTGCCGACGAGGCTGAGCTGAGCTGAGCTGAGCT	7741
6602	GAGGAGGCTAGTGGACCTCTGCTCTGCTGATGTCCTACATGACAGCGCCCT	6661	D _b	7682	GGGGACCCGGCCACCTTGCCGACGAGGCTGAGCTGAGCTGAGCTGAGCT	7741
6602	GAGGAGGCTAGTGGGACCTCTGCTCTGCTGATGTCCTACATGACAGCGCCCT	6661	Q _y	7742	TCAGTCGGCAGCGATCTGCTGCAAGAACGGGTTACTCTACCGCCGTCAC	7801
6662	ATACGCGCTCTGCTGCTGCGGAGAACCGCTGCCATATGCAAGCTGGCT	6721	D _b	7742	TCAGTCGGCAGCGATCTGCTGCAAGAACGGGTTACTCTACCGCCGTCAC	7801
6662	ATACGCGCTCTGCTGCTGCGGAGAACCGCTGCCATATGCAAGCTGGCT	6721	Q _y	7802	CCCTTGCGGGCTGGCTGGAGACGCTGAGCTGAGCTGAGCTGAGCTGAG	7861
6722	CTCGTCACCAACACTCTGCTATGCTACAACTCTCGAGGCGCAAGGCTGGCAG	6781	D _b	7802	CCCTTGCGGGCTGGCTGGAGACGCTGAGCTGAGCTGAGCTGAGCTGAG	7861
6722	CTCGTCACCAACACTCTGCTATGCTACAACTCTCGAGGCGCAAGGCTGGCAG	6781	Q _y	7862	AAACATCATCATGTTGGCCACCTTGCGGAAAGGATGATCTGTGAGCTTCTTC	7921
6782	AAGGTCACTTGGAGATGCGAGCTCTGGACCACTACGGGAGTGTCTCAAGG	6841	D _b	7862	AAACATCATCATGTTGGCCACCTTGCGGAAAGGATGATCTGTGAGCTTCTTC	7921
6782	AAGGTCACTTGGAGATGCGAGCTCTGGACCACTACGGGAGTGTCTCAAGG	6841	Q _y	7922	TCCATCCCTCTAGCTAGCTAGCTAGTAAAGCCCTAGTGTGAGCTACGGGCC	7981
6842	ATGAGGGCAAGGGTCCAGACTTGGGACCAACTACGGGAGTGTCTCAAGG	6901	D _b	7922	TCCATCCCTCTAGCTAGCTAGTAAAGCCCTAGTGTGAGCTACGGGCC	7981
6842	ATGAGGGCAAGGGTCCAGACTTGGGACCAACTACGGGAGTGTCTCAAGG	6901	Q _y	7982	TGTTTACCTGCAAGCTGAGGCAACTTGAGGAGCTTACGGGCCATGGCTAGC	8041

SOFTWARE: FastSEQ for Windows Version 4.0
 SEQ ID NO: 25 LENGTH: 8638
 TYPE: DNA
 FEATURE:
 NAME/KEY: CDS
 LOCATION: (1802) . . . (8407)

Query Match Score 0.4%; DB 1; Length 8638;
 Best Local Similarity 49.2%; Pred. No. 0;
 Matches 88; Conservative 0; Mismatches 91; Indels 0; Gaps 0;

Qy 6120 AGGTACTAATTGGACTCTTCGAGCGTCCAAAGCGGAGGATGAGGGAAAGTAT 6179
 Db 6298 AGGGACTAGTCGGTCCCGGACTTAACGTGAGGGTGTATCCGGCGTGC 6239

Qy 6180 CGGTTCGGGGAGATCTGGGGTTCCAGGAATTCCCTCGAGGCCATATGG 6239
 Db 6238 CCATATGGCATCGCAGGGAAATTCTGGACCTCCGGAGGATCTGGAAACGGA 6179

Qy 6240 CAGCCCCGATTACACCCCACTGTAGTCTGGAGGACUGGACTACSTCCCT 6298
 Db 6178 TACTCCCTCATCCCTCGCTTGACGGCTCGAAGACTCAAATTACTACCT 6120

RESULT 9
 US-10-789-355-2/c
 Sequence 2, Application US/10789355
 GENERAL INFORMATION:
 APPLICANT: BOEHRINGER INGELHEIM (CANADA) LTD.
 TITLE OF INVENTION: SELF REPLICATING RNA MOLECULE FROM
 FILE REFERENCE: 13/083
 CURRENT APPLICATION NUMBER: US/10/789,355
 CURRENT FILING DATE: 2004-02-27
 PRIOR APPLICATION NUMBER: US/10/029,907
 PRIORITY FILING DATE: 2001-12-21
 PRIORITY APPLICATION NUMBER: 60/257,857
 PRIORITY FILING DATE: 2000-12-22
 NUMBER OF SEQ ID NOS: 25
 SOFTWARE: FastSEQ for Windows Version 4.0
 SEQ ID NO: 2 LENGTH: 8643

Query Match Score 0.4%; DB 1; Length 8643;
 Best Local Similarity 6.0%; Pred. No. 0;
 Matches 48; Conservative 0; Mismatches 27; Indels 0; Gaps 0;

Qy 858 CTGACGAGGAGTCAGGGCTGGCCAGGCCAACCTGGCAGGGTCAAAGGCCAC 917
 Db 932 CTCGCCGTGGCATGGCTGGCCCTTGAGCTGGCCAACAGTTCGGCTGGGAGCCCTTG 873

Qy 918 ATGCCCGAGGGGAG 932
 Db 872 ATGCCCTTCGTCAG 858

Search completed: March 13, 2007, 16:16:47
 Job time : 56 secs

RESULT 9
 US-10-789-355-2/c
 Sequence 2, Application US/10789355
 GENERAL INFORMATION:
 APPLICANT: BOEHRINGER INGELHEIM (CANADA) LTD.
 TITLE OF INVENTION: SELF REPLICATING RNA MOLECULE FROM
 FILE REFERENCE: 13/083
 CURRENT APPLICATION NUMBER: US/10/789,355
 CURRENT FILING DATE: 2004-02-27
 PRIOR APPLICATION NUMBER: US/10/029,907
 PRIORITY FILING DATE: 2001-12-21
 PRIORITY APPLICATION NUMBER: 60/257,857
 NUMBER OF SEQ ID NOS: 25
 SOFTWARE: FastSEQ for Windows Version 4.0
 SEQ ID NO: 2 LENGTH: 8642

TYPE: DNA
 FEATURE:
 NAME/KEY: CDS
 LOCATION: (1802) . . . (8407)

FEATURE:
 NAME/KEY: variation
 LOCATION: 6268
 OTHER INFORMATION: r = a or g
 FEATURE:
 NAME/KEY: variation
 LOCATION: 4446
 OTHER INFORMATION: r = a or g

US-10-789-355-2

Query Match Score 0.4%; DB 1; Length 8642;
 Best Local Similarity 48.6%; Pred. No. 0;
 Matches 87; Conservative 1; Mismatches 91; Indels 0; Gaps 0;

Qy 6120 AGGTACTAATTGGACTCTTGAGCGCTCAAGGGAGGATGAGGGAAAGTAT 6179
 Db 6298 AGGGACTAGTCGGGCTCTCCAGGACTYAACGTGGAGGGTGTATCCGGGTGC 6239

Qy 6180 CGGTTCGGGGAGATCTGGGGTTCCAGGAATTCCCTCGAGGCCATATGG 6239
 Db 6238 CCATATGGCATCGCAGGGAAATTCTGGACCTCCGGAGTTCGGGAGGAA 6179

Qy 6240 CACGCCCGGATTACACCCACTGTAGTCTGGAAAGGACCCGGACTPAGTCCT 6298

Db	782	ATTCGACCAACCAGCGAACATCGCATCGAGGAGCACGGTACTCGGATGGAAAGCGGGTCT	841		1922	ATCACAGGCCCGAGGAGCACCTTGCAAGTGTGGATCCCCCTCAACGTTCGGGGGC	1981
Qy	842	TGTGATCTAGATGATCTGGAGAAGGCACTCGCATCGCCGAACTCTTCGC	901	Db	1922	ATCACAGGCCCGAGGAGCACCTTGCAAGTGTGGATCCCCCTCAACGTTCGGGGGC	1981
Db	842	TGTGATCTAGATCTGGAGAAGGCACTCGCATCGCCGAACTCTTCGC	901	Qy	1982	CGCGATGCGTCATCTCTCAGTGGCGATCACCGAGCTTAATCTTACCATCACC	2041
Qy	902	CAGGTCGAAGGGGCAATGGGATCTGGTGAACCATGGCGATGCCGCTG	961	Db	1982	CGCGATGCGTCATCTCTCAGTGGCGATCACCGAGCTTAATCTTACCATCACC	2041
Db	902	CAGGTCGAAGGGGCAATGGGATCTGGTGAACCATGGCGATGCCGCTG	961	Qy	1982	CGCGATGCGTCATCTCTCAGTGGCGATCACCGAGCTTAATCTTACCATCACC	2041
Db	962	CTTGGCGAAATCATGGTGGAAATTGGCCGTTTCTGGATTCTGACTGGGGCT	1021	Db	2042	AAAATCTTCTGCATACTCGGTCACACTCATGGTCTCAGGTGATAACAAAGTGT	2101
Qy	962	CTTGGCGAAATCATGGTGGAAATTGGCCGTTTCTGGATTCTGACTGGGGCT	1021	Db	2042	AAAATCTTCTGCATACTCGGTCACACTCATGGTCTCAGGTGATAACAAAGTGT	2101
Db	1022	GGGTGCGGGAAATGGGCTTACCGGTATCGGTGATATTGTGAAGAGCT	1081	Qy	2102	CGTACTCTGTGCGCCAACCGGCTCATTCGGTCAATCTGTGTCATGATGTTGGAAAGTTGCT	2161
Qy	1022	GGGTGCGGGAAATGGGCTTACCGGTATCGGTGATATTGTGAAGAGCT	1081	Db	2102	CGTACTCTGTGCGCCAACCGGCTCATTCGGTCAATCTGTGTCATGATGTTGGAAAGTTGCT	2161
Db	1082	TGGGGGAAATGGGTGACCGTCTCTGIGETTACGGTATCGCGCTCCGATTCGCA	1141	Qy	2162	GGGGTCAATTATGTCCAATGGGTCTCATGAAGTGTGGCCACTGACAGTACGTAGT	2221
Qy	1082	TGGGGGAAATGGGTGACCGTCTCTGIGETTACGGTATCGCGCTCCGATTCGCA	1141	Db	2162	GGGGTCAATTATGTCCAATGGGTCTCATGAAGTGTGGCCACTGACAGTACGTAGT	2221
Db	1142	GGCATGCGCTCTATGGCTTCTGAGTTCGAGTTCTGAGTTAAC	1201	Qy	2222	TATGACATCTACCCACTCGGGCACTGGGCACTGGGACCTTGGGTCAGAC	2281
Qy	1142	GGCATGCGCTCTATGGCTTCTGAGTTCGAGTTCTGAGTTAAC	1201	Db	2222	TATGACATCTACCCACTCGGGCACTGGGCACTGGGACCTTGGGTCAGAC	2281
Db	1202	AGACCAACAGGTTCCCTCTAGCGCTCTATGGCTTCTGAGTTAAC	1261	Qy	2282	GCAGTTGAGGCCGCGTCTCTGATATGGAGACCAAGGTTATCACCTGGGGCAGAC	2341
Qy	1202	AGACCAACAGGTTCCCTCTAGCGCTCTATGGCTTCTGAGTTAAC	1261	Db	2282	GCAGTTGAGGCCGCGTCTCTGATATGGAGACCAAGGTTATCACCTGGGGCAGAC	2341
Db	1262	CGAAGGCCGTTGAAATAGGCCGTGTTGTCTATAGTTACCATATTC	1321	Qy	2342	ACCGGGGCTGCTGGGACATCATCTGGGCTGCCTGCCTGCCTGCCTGC	2401
Qy	1262	CGAAGGCCGTTGAAATAGGCCGTGTTGTCTATAGTTACCATATTC	1321	Db	2342	ACCGGGGCTGCTGGGACATCATCTGGGCTGCCTGCCTGCCTGCCTGC	2401
Db	1322	CGCTCTTTGGCAATGTGGGGCCAACTGGCCCTGCTTCTGCTATGATCTCT	1381	Qy	2402	ATACATCTGGACCGGAGACAGCTGGGCTGCTCTGAGGGCTGCTACT	2461
Qy	1322	CGCTCTTTGGCAATGTGGGGCCAACTGGCCCTGCTTCTGCTATGATCTCT	1381	Db	2402	ATACATCTGGACCGGAGACAGCTGGGCTGCTCTGAGGGCTGCTACT	2461
Db	1382	AGGGGTCTTCCCTCTGCCAAGGGATGCAAGGTCCTGCTGTTGCTTCTGCT	1441	Qy	2462	ACGGGCTACTCCAAAGAGCGGGCCPACTTGGCTGATCATCATGCTGCAAGGGC	2521
Qy	1382	AGGGGTCTTCCCTCTGCCAAGGGATGCAAGGTCCTGCTGTTGCTTCTGCT	1441	Db	2462	ACGGGCTACTCCAAAGAGCGGGCCPACTTGGCTGATCATCATGCTGCAAGGGC	2521
Db	1442	GTCCTCTGGAAGCTTCTGAGACAACAGCTGCTGAGCACACAACTGGCCACCCCTTGAGGCCGG	1501	Qy	2522	CGGAGAGGAAACGGTGGGGGGAGGTCGAAGTGTCTCACCGAACAACTTTC	2581
Qy	1442	GTCCTCTGGAAGCTTCTGAGACAACAGCTGCTGAGCACACAACTGGCCACCCCTTGAGGCCGG	1501	Db	2522	CGGAGAGGAAACGGTGGGGGGAGGTCGAAGTGTCTCACCGAACAACTTTC	2581
Db	1502	AACCCCCAACCTGGCGACAAGTGGCTCTGGCCAAAGGGATGCAAGGTCCTGCT	1561	Qy	2582	CTTGGCCGCCAAAGGCCAAATCAGCCAAATGTAACCAATGTCAGTCTGCT	2641
Qy	1502	AACCCCCAACCTGGCGACAAGTGGCTCTGGCCAAAGGGATGCAAGGTCCTGCT	1561	Db	2582	CTTGGCCGCCAAAGGCCAAATCAGCCAAATGTAACCAATGTCAGTCTGCT	2641
Db	1562	ATGGATCTCTCAAGCGPATCAACAAAGGGCTGAAGGATGCCAGAACGGTACCCATTGT	1681	Qy	2642	CTTGGCCGCCAAAGGCCAAATCAGCCAAATGTAACCAATGTCAGTCTGCT	2701
Qy	1562	ATGGATCTCTCAAGCGPATCAACAAAGGGCTGAAGGATGCCAGAACGGTACCCATTGT	1681	Db	2642	CTTGGCCGCCAAAGGCCAAATCAGCCAAATGTAACCAATGTCAGTCTGCT	2701
Db	1682	AACGTCCTAGCCCCCGAACCGGGGAGGTGGTTAGTGGAGGTAAAA	1741	Qy	2702	GGGAGCTACTCTCCGCCAGGGCCCTCTGACCATGTCACCTGGCTGGGGGCT	2881
Qy	1682	AACGTCCTAGCCCCCGAACCGGGGAGGTGGTTAGTGGAGGTAAAA	1741	Db	2702	GGGAGCTACTCTCCGCCAGGGCCCTCTGACCATGTCACCTGGCTGGGGGCT	2881
Db	1682	ATGGATCTCTCAAGCGPATCAACAAAGGGCTGAAGGATGCCAGAACGGTACCCATTGT	1741	Qy	2882	CTCTGGCCCTGGGCTGGGCACTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGG	2941
Qy	1742	AACGTCCTAGCCCCCGAACCGGGGAGGTGGTTAGTGGAGGTAAAA	1801	Db	2882	CTCTGGCCCTGGGCTGGGCACTGGCTGGCTGGCTGGCTGGCTGGCTGG	2941
Db	1742	AACGTCCTAGCCCCCGAACCGGGGAGGTGGTTAGTGGAGGTAAAA	1801	Qy	1802	ATGGACCCGGAGATGGCGACATGGCGAGAGGGGGTTTCTGGTAGTGTCTG	1861
Qy	1802	ATGGACCCGGAGATGGCGACATGGCGAGAGGGGGTTTCTGGTAGTGTCTG	1861	Db	1862	ACCTTGTGCACTATAAGCTGTTCTGGTAGGTCTATGGTGTCTAATGGTGT	1921
Db	1862	ACCTTGTGCACTATAAGCTGTTCTGGTAGGTCTATGGTGTCTAATGGTGT	1921	Qy	1862	ACCTTGTGCACTATAAGCTGTTCTGGTAGGTCTATGGTGTCTAATGGTGT	1921
Qy	1862	ACCTTGTGCACTATAAGCTGTTCTGGTAGGTCTATGGTGTCTAATGGTGT	1921	Db	1862	ACCTTGTGCACTATAAGCTGTTCTGGTAGGTCTATGGTGTCTAATGGTGT	1921

3002	TTCAGGAAACAATCGTCCCTCGGCTCATCGAGAACATCCAGGTGGCCATCTACAC	3061	Qy
3002	TTCAGGAAACAATCGTCCCTCGGCTCATCGAGAACATCCAGGTGGCCATCTACAC	3061	D _b
3062	GCCCCACTGTTAGGGAAAGGCACTAAGGTGCGGCCCTGGTAGCGACCTAACAGGTAT	3121	Qy
3062	GCCCCACTGTTAGGGAAAGGCACTAAGGTGCGGCCCTGGTAGCGACCTAACAGGTAT	3121	D _b
3122	AAGGTGTTGTCCTGAACCCGTCGTCGCCAACCTTAAGGTTGGGCGTAGCTATATGCT	3181	Qy
3122	AAGGTGTTGTCCTGAACCCGTCGTCGCCAACCTTAAGGTTGGGCGTAGCTATATGCT	3181	D _b
3182	AAGGCAATGGTATGACCCATACATCGAACCGGGTAAAGGACCATCACAGGGTGC	3241	Qy
3182	AAGGCAATGGTATGACCCATACATCGAACCGGGTAAAGGACCATCACAGGGTGC	3241	D _b
3242	CCCATTACGTACTCCACCTATGGCAAAGTTCTGGCAGCGTGGTTGCTTGCGGCC	3301	Qy
3242	CCCATTACGTACTCCACCTATGGCAAAGTTCTGGCAGCGTGGTTGCTTGCGGCC	3301	D _b
3302	TATGACATCATATATGTGATGTTGGCAACTCACTGCTGCCACTATCTGGCATIC	3361	Qy
3302	TATGACATCATATATGTGATGTTGGCAACTCACTGCTGCCACTATCTGGCATIC	3361	D _b
3362	GGCACACGTCCTGGACCAAGGGGAGCGCTGGCGCACTCCCGTGGCACCCT	3421	Qy
3362	GGCACACGTCCTGGACCAAGGGGAGCGCTGGCGCACTCCCGTGGCACCCT	3421	D _b
3422	AGGCTTCGGGATGGTGGTGGTGGTGGTGGTGGTGGCAGC	3481	Qy
3422	AGGCTTCGGGATGGTGGTGGTGGTGGTGGTGGTGGCAGC	3481	D _b
3482	ACTGGAGAAATCCCTTTATGGAAACCACTCCATCGAGCCATAGGGGGGGGG	3541	Qy
3482	ACTGGAGAAATCCCTTTATGGAAACCACTCCATCGAGCCATAGGGGGGGGG	3541	D _b
3542	CACCTCATTCTGCCATTCCAGGAAATGTGATGAGCTTCGGCCAG	3601	Qy
3542	CACCTCATTCTGCCATTCCAGGAAATGTGATGAGCTTCGGCCAG	3601	D _b
3602	CTGGGACTCAATCTGTAGCATATAACGGGGCTTGTGATGCTACAAACTAGC	3661	Qy
3602	CTGGGACTCAATCTGTAGCATATAACGGGGCTTGTGATGCTACAAACTAGC	3661	D _b
3662	GGAGACTCTATGTCGAGCAAGGCGCTCTATGACGGCTGTTGGATTCGAC	3721	Qy
3662	GGAGACTCTATGTCGAGCAAGGCGCTCTATGACGGCTGTTGGATTCGAC	3721	D _b
3722	TCACTTGGGCTTGGGAGGCTTGGGAGGCTTGGGAGGCTTGGGAGGCTTGGG	3781	Qy
3722	TCACTTGGGCTTGGGAGGCTTGGGAGGCTTGGGAGGCTTGGGAGGCTTGGG	3781	D _b
3782	TTCACCATGGAGCGACGACCTGCGCTCCAGGCGCTTGGGAGGCTTGGG	3841	Qy
3782	TTCACCATGGAGCGACGACCTGCGCTCCAGGCGCTTGGGAGGCTTGGG	3841	D _b
3842	AGGACTGTAGGGCAGGATGGGATTACAGGTTGTAAGCTCCGGCTCG	3901	Qy
3842	AGGACTGTAGGGCAGGATGGGATTACAGGTTGTAAGCTCCGGCTCG	3901	D _b
3902	CGCATGTTGCAATACATGTCGACTGGGCTTACCTTAACACACAGGTTGGCC	3961	Qy
3902	CGCATGTTGCAATACATGTCGACTGGGCTTACCTTAACACACAGGTTGGCC	3961	D _b
3962	CTACAGCGCCGGGAGACCTCACTGAGCTTGGGAGGCTTGGGAGGCTTGGG	4021	Qy
3962	CTACAGCGCCGGGAGACCTCACTGAGCTTGGGAGGCTTGGGAGGCTTGGG	4021	D _b
4022	GTCGCAAGGACCATCTGGAGGAGCTGGGAGGAGCTGGGAGGAGCTGGG	4081	Qy
4022	GTCGCAAGGACCATCTGGAGGAGCTGGGAGGAGCTGGGAGGAGCTGGG	4081	D _b
4082	CCCCATTCCTGGTCCCTGGAGGAGCTAACGGGGAGGAGCTAACGGGG	4141	Qy

Db	5162	TCCCCCAGCACTATGTCCTGAGGGCAGCGGTCACTAGATCCCTCTCT	5221	Qy	63 02	GTTGGTACACGGGTGTCATTCGCCGCCTGCCAAGGCCCTCCGATAACCACTCCAGGAGG	63 61
Qy	5222	AGTCCTAACATACTACTAGCTGTCAGAAGGCTTCAAGGTGAACTAACGGAGACTGCTCC	5281	Db	63 02	GTTGGTACACGGGTGTCATTCGCCGCCTGCCAAGGCCCTCCGATAACCACTCCAGGAGG	63 61
Db	5222	AGTCCTAACATACTACTAGCTGTCAGAAGGCTTCAAGGTGAACTAACGGAGACTGCTCC	5281	Qy	63 62	AAGAGGACGCTTGTGTCAGAATCTACCGTGCGGAGCTGCACAA	64 21
Qy	5282	AACCCATTCCTCGGTCTGGTAAGGATGTTGGATATGGTATGCACTGGTGA	5341	Db	63 62	AAGAGGACGCTTGTGTCAGAATCTACCGTGCGGAGCTGCACAA	64 21
Db	5282	AACCCATTCCTCGGTCTGGTAAGGATGTTGGATATGGTATGCACTGGTGA	5341	Qy	64 22	AAGACCTTCGGAGTCGCTCCAGTCAGGGCACCGAACGGCTCTCC	64 81
Qy	5342	GATTTCAGAACCTGGCTTCAAGCTCTGCCGGATTCGGGAGTCGCCCTCTTC	5401	Db	64 22	AAGACCTTCGGAGTCGCTCCAGTCAGGGCACCGAACGGCTCTCC	64 81
Db	5342	GATTTCAGAACCTGGCTTCAAGCTCTGCCGGATTCGGGAGTCGCCCTCTTC	5401	Qy	64 82	GACCAAGCCCTCGAGAAGCGGAACTCCAGTGA	65 41
Qy	5402	TCTATGTCACCCGGGTACAGGGAGTCGCCGGGAGACGGATCATGGCAACCTGC	5461	Db	64 82	GACCAAGCCCTCGAGAAGCGGAACTCCAGTGA	65 41
Db	5402	TCTATGTCACCCGGGTACAGGGAGTCGCCGGGAGACGGATCATGGCAACCTGC	5461	Qy	65 42	CCCCCTGAGGGGACCAGGGGAGATCCGAGACGGGGATTCAGGACGGGCTTACCTCCATGGTAA	66 01
Qy	5462	CCATGTGAGCAAGATAACCGGACATGTGAAATACTGTCCATGGGATCTGGGGCC	5521	Db	65 42	CCCCCTGAGGGGACCAGGGGAGATCCGAGACGGGGATTCAGGACGGGCTTACCTCCATGGTAA	66 01
Db	5462	CCATGTGAGCAAGATAACCGGACATGTGAAATACTGTCCATGGGATCTGGGGCC	5521	Qy	66 02	GAGGGGGCTAGTAGGGAGCCTGCTGCTGCTGAGTCAGGACGGGCCCTG	66 61
Qy	5582	AGGACCTGTAATGAACTGGCATGGACATTCCCATTAAGCGTACACCAACGGCC	5581	Db	66 02	GAGGGGGCTAGTAGGGAGCCTGCTGCTGCTGAGTCAGGACGGGCCCTG	66 61
Db	5582	AGGACCTGTAATGAACTGGCATGGACATTCCCATTAAGCGTACACCAACGGCC	5581	Qy	66 62	ATCACGCCATGCGTGGAGAACGAGCTGCCATCATGCAACTCTTGT	67 21
Qy	5582	TGCAAGCCTTCGGGGCAATTATTCTAGGGGATTTCCACTACGGGATGAGGAG	5641	Db	66 62	ATCACGCCATGCGTGGAGAACGAGCTGCCATCATGCAACTCTTGT	67 21
Db	5582	TGCAAGCCTTCGGGGCAATTATTCTAGGGGATTTCCACTACGGGATGAGGAG	5641	Qy	67 22	CCTCCGTCACCAACTGGCTATCTACACATCTCGRGCGRAAGCTGGGAGAAG	67 81
Qy	5642	TACGTGGAGGTTACGGGGTGGGGATTCCACTACGGGATGACCACTGACAC	5701	Db	67 22	CCTCCGTCACCAACTGGCTATCTACACATCTCGRGCGRAAGCTGGGAGAAG	67 81
Db	5642	TACGTGGAGGTTACGGGGTGGGGATTCCACTACGGGATGACCACTGACAC	5701	Qy	67 82	AAGGTCACCTTGTGAGACGGCAGCTCCAGTGAAGCTTACCCGGACGCTTAAGGAG	68 41
Qy	5702	GTAAGTCCCCTGAGTTCCGGGCCCCGAAATTCTCAAGAAATGGATGGGTCGG	5761	Db	67 82	AAGGTCACCTTGTGAGACGGCAGCTCCAGTGAAGCTTACCCGGACGCTTAAGGAG	68 41
Db	5702	GTAAGTCCCCTGAGTTCCGGGCCCCGAAATTCTCAAGAAATGGATGGGTCGG	5761	Qy	68 42	ATGANGCGAGGGCTCCAGTGAAGCTTACCTCTACCCGGACGACATCTCCGGACGAC	69 01
Qy	5762	TGTCACAGGTACGGCTTCAAGCTCCAGGAGGTCACTTCAGGAGGTCACTGGT	5821	Db	68 42	ATGANGCGAGGGCTCCAGTGAAGCTTACCTCTACCCGGACGACATCTCCGGACGAC	69 01
Db	5762	TGTCACAGGTACGGCTTCAAGCTCCAGGAGGTCACTTCAGGAGGTCACTGGT	5821	Qy	69 02	CTGACCCCCACATTGGCCAGATCTAAATTGGCTATGGCAAAAGGAGTCGGGAAAC	69 61
Qy	5822	GGCTCAATCAAATACCTGGTGGGTCAAGTGTCCATGGACCCCCGAACTGGCTAGCA	5881	Db	69 02	CTGACCCCCACATTGGCCAGATCTAAATTGGCTATGGCAAAAGGAGTCGGGAAAC	69 61
Db	5822	GGCTCAATCAAATACCTGGTGGGTCAAGTGTCCATGGACCCCCGAACTGGCTAGCA	5881	Qy	69 62	CTATCCGCAAGGGGTTAACCACTCCGTCCTGAGGAGCTTCGCTGAACTGACT	70 21
Qy	5882	GTCCTCACTCTCATGCTCAAGGAGGTCTCCGCACTTCAGGAGGTCACTGGCTAGG	5941	Db	69 62	CTATCCGCAAGGGGTTAACCACTCCGTCCTGAGGAGCTTCGCTGAACTGACT	70 21
Db	5882	GTCCTCACTCTCATGCTCAAGGAGGTCTCCGCACTTCAGGAGGTCACTGGCTAGG	5941	Qy	70 22	GAGACCAATTGACACCATCATGGCAAAATTGAGTTTCTGCTGAACTGAG	70 81
Qy	5942	CTGGCCAGGGAGCTCCGGCTTGGCTGAGCTGGCTGAGCTGGCTGAGCTGGCT	6001	Db	70 22	GAGACCAATTGACACCATCATGGCAAAATTGAGTTTCTGCTGAACTGAG	70 81
Db	5942	CTGGCCAGGGAGCTCCGGCTTGGCTGAGCTGGCTGAGCTGGCTGAGCTGGCT	6001	Qy	70 82	AAGGGGGCCCAAGGGAGCTGGCTGAGCTGGCTGAGCTGGCTGAGCTGGCT	71 41
Qy	6002	TCTTGAGGGCACATGGACTACCGCTCATGACTCCGGAGCTGACCTCATCGGGCC	6061	Db	70 82	AAGGGGGCCCAAGGGAGCTGGCTGAGCTGGCTGAGCTGGCTGAGCTGGCT	71 41
Db	6002	TCTTGAGGGCACATGGACTACCGCTCATGACTCCGGAGCTGACCTCATCGGGCC	6061	Qy	71 42	GAGAAATGGCCCTTACGATGGCTGCTCCAGGCTGATGGCTGCTTC	72 01
Qy	6062	AACCTCCCTGGGGAGGAGCTGGCTTACCGGGAGGATGGCTGAGTAA	6121	Db	71 42	GAGAAATGGCCCTTACGATGGCTGCTCCAGGCTGATGGCTGCTTC	72 01
Db	6062	AACCTCCCTGGGGAGGAGCTGGCTTACCGGGAGGATGGCTGAGTAA	6121	Qy	72 02	TACGGTTCCATACTCTCTGGACAGGGCTGAGTTCTGGTGAATGCTTGG	72 61
Qy	6122	CTAGTAATTGGGACTCTTCAGGGGTTCCAGGGAGGATGGCTGAGTAA	6181	Db	72 02	TACGGTTCCATACTCTCTGGACAGGGCTGAGTTCTGGTGAATGCTTGG	72 61
Db	6122	CTAGTAATTGGGACTCTTCAGGGGTTCCAGGGAGGATGGCTGAGTAA	6181	Qy	72 62	AAGAAATGGCCCTATGGCTTGGCTGATGATGACCCGGTGTGTTGACTAA	73 21
Qy	6182	GTCGGGGAGGATCTGGGAGGTCCTGGGAGGTCCTGGGAGGATGGCTGAGTAA	6241	Db	72 62	AAGAAATGGCCCTATGGCTTGGCTGATGACCCGGTGTGTTGACTAA	73 21
Db	6182	GTCGGGGAGGATCTGGGAGGATGGCTGAGGAGATGGGGAGGATGGCTGAGTAA	6241	Qy	73 22	AATGACATCCCTGTTGGAGTGGACTCATCTAACATGTTGACTTC	73 81
Qy	6242	CGCCGGGATTAACACCTCTCACTGGTAAAGTCTGGGAGGACCCGGACTCTCCCA	6301	Db	73 22	AATGACATCCCTGTTGGAGTGGACTCATCTAACATGTTGACTTC	73 81
Db	6242	CGCCGGGATTAACACCTCTCACTGGTAAAGTCTGGGAGGACCCGGACTCTCCCA	6301				

422	GGCGCTTGGGAGGCTATTGGCTATGACTGGCAAAAGAACATCGCTGTC	481	Qy	1502	AACCCCACTGGCAACAGCCTGCCTGCCCCGTGCTTGAGTTGAGTGGAAAGACTCAA	1561
422	GGCGCTTGGGAGGCTATTGGCTATGACTGGCAAAAGAACATCGCTGTC	481	D _b	1562	GCAAGGGGCAACACCCGTGCTGGCGGAAAGCTGGCCCTTGAGTTGAGTGGAAAGACTCAA	1621
482	TGATGCCCGGTGTTCCGGCTGTGCGGAAGGCTATTGGCTATGACTGGCAAAAGAACATCGCTGTC	541	Qy	1562	GCAAGGGGCAACACCCGTGCTGGCGGAAAGCTGGCCCTTGAGTTGAGTGGAAAGACTCAA	1621
482	TGATGCCCGGTGTTCCGGCTGTGCGGAAGGCTATTGGCTATGACTGGCAAAAGAACATCGCTGTC	541	D _b	1622	TGGCTTCTCCTAAGGCTATTCAACAGGGGTGAAAGGTACCGGTTACCCATTGT	1681
542	CTGTCCGGCCCTGAATGAACTGGAGGGCTATCGTGGTGGCAC	601	Qy	1622	TGGCTTCTCCTAAGGCTATTCAACAGGGGTGAAAGGTACCGGTTACCCATTGT	1681
542	CTGTCCGGCCCTGAATGAACTGGAGGGCTATCGTGGTGGCAC	601	D _b	1682	ATGGGATCTGATCTGGCTTACATGCTGTTACATGCTGTTAGTCAGGTTAAAA	1741
602	GACGGGCTTCCPTGGCAAGCTGGCTCACTGAACGGGAGGGAAGCTGGCT	661	Qy	1682	ATGGGATCTGATCTGGCTTACAGCTTACATGCTGTTAGTCAGGTTAAAA	1741
602	GACGGGCTTCCPTGGCTCACTGAACGGGAGGGAAGCTGGCT	661	D _b	1742	AACGTCATGGCCCTGGAAACCAACGGGACCTGGTTTCCTGAAAACACGATAATACC	1801
662	GCTATTGGCGAACTGGCAGGATCTCCCTGTCATCTACCTGGCAGAA	721	Qy	1742	AACGTCATGGCCCTGGAAACCAACGGGACCTGGTTTCCTGAAAACACGATAATACC	1801
662	GCTATTGGCGAACTGGCAGGATCTCCCTGTCATCTACCTGGCAGAA	721	D _b	1742	ACCTTCACGGCACTATAAGCTGTTCTCGTAGGTCATATGGTGGTTCAATAATT	1921
722	AGTATCCATCATGGCTGATGCAATGCGGCTACTGCTGATACCGT	781	Qy	1802	ATGGACGGGAGATGGCAGATCGTGGAGGGGCTTTGTAAGTGGTT	1861
722	AGTATCCATCATGGCTGATGCAATGCGGCTACTGCTGATACCGT	781	D _b	1802	ATGGACGGGAGATGGCAGATCGTGGAGGGCTTTGTAAGTGGTT	1861
782	ATTGACCAACAAAGCAAACTCGATCGAGGCACTACTGGATGAAAGCGGTCT	841	Qy	1862	ACCTTGTCACGGCACTATAAGCTGTTCTCTAGGTCATGGTGGTTCAACGTTGGGGCC	1981
782	ATTGACCAACAAAGCAAACTCGATCGAGGCACTACTGGATGAAAGCGGTCT	841	D _b	1862	ATCACAGGGCGGAGGCAACACTTGCAGGTGGATCCCCCCTCAACGTTGGGGCC	1981
842	TGTCGATCGATGATCTGGCAAGAGATCTGGCAAACTGGTTCGG	901	Qy	1922	ATCACAGGGCGGAGGCAACACTTGCAGGTGGATCCCCCCTCAACGTTGGGGCC	1981
842	TGTCGATCGATGATCTGGCAAGAGATCTGGCAAACTGGTTCGG	901	D _b	1922	ACCTTCACGGGAGGCAACACTTGCAGGTGGATCCCCCCTCAACGTTGGGGCC	1981
902	CAGCTCAAGGGCGCATGCCCGAGGGAGATCTCGTGTGACCCATGGCTG	961	Qy	1982	CGCGATGCCCTCATCTCCCTCACTGGCGATCCACCGAGCTTAATCTACCTAC	2041
902	CAGCTCAAGGGCGCATGCCCGAGGGAGATCTCGTGTGACCCATGGCTG	961	D _b	1982	CGCGATGCCCTCATCTCCCTCACTGGCGATCCACCGAGCTTAATCTACCTAC	2041
962	CTTGGCGAATATCGTGGAAATTGGCCCTTCTGATCTCGACTGTCGGGCT	1021	Qy	2042	AAAATCTTGGCTGCAATACGGTCACATCGGTCACACTCATGGTGTCCAGGTGTTATAACCAAGT	2101
962	CTTGGCGAATATCGTGGAAATTGGCCCTTCTGATCTCGACTGTCGGGCT	1021	D _b	2042	CCGTAATTCCTGGCGCAACAGGGCTCATCTGGTGTCCAGGTGTTATAACCAAGT	2101
1022	GGGTGTEGGCGGCTATCGAGGATCGGCTACCCGTGATACTCTGAAAGCT	1081	Qy	2102	TATGACCATCTACCCCACTGGGACTGGGCACTGGGCTCATGGAGACCTGGTGTG	2161
1022	GGGTGTEGGCGGCTATCGAGGATCGGCTACCCGTGATACTCTGAAAGCT	1081	D _b	2102	CGGTATTCCTGGCGCAACAGGGCTCATCTGGTGTCCAGGTGTTATAACCAAGT	2161
1082	TGGGGCTGAAATGGGCTGACGCCCTCTGCTTACGGTATCGCGCTTACG	1141	Qy	2162	GGGGTCAATTGTCGAATCTGGCTCATCTGGGACTGGTAGCTGACGGT	2221
1082	TGGGGCTGAAATGGGCTGACGCCCTCTGCTTACGGTATCGCGCTTACG	1141	D _b	2162	GGGGTCAATTGTCGAATCTGGGACTGGTAGCTGACGGT	2221
1142	GCGATCGCTTCTGATCGCTTCTGCGGTTCTGAGGTTCTCGCTGCTG	1201	Qy	2222	TATGACCATCTACCCCACTGGGACTGGGCACTGGGCTCATGGAGACCTGGTGTG	2281
1142	GCGATCGCTTCTGATCGCTTCTGCGGTTCTGAGGTTCTCGCTGCTG	1201	D _b	2222	GCAGTGTAGCCGTCCTCTGATGGACATCTGGGACTGGGCACTGGGCTCATGGAGACCTGGTGTG	2281
1202	AGACACAAAGGGTCCCTCTAGGGGATAACTGGCCCTTAACGTTACTGG	1261	Qy	2282	ATACATTCCTGGACGGGCTCATCTGGGACTGGGCACTGGGCTCATGGAGACCTGGTGTG	2341
1202	AGACACAAAGGGTCCCTCTAGGGGATAACTGGCCCTTAACGTTACTGG	1261	D _b	2282	GCAGTGTAGCCGTCCTCTGATGGACATCTGGGACTGGGCACTGGGCTCATGGAGACCTGGTGTG	2341
1262	CGTGTCTTGGCAATTGGAGGAAATGGAGGGCCGAAAGCTGGCCCTTGCTGAGGCTTCTGAGGCTTCT	1381	Qy	2342	ACGGCCGGCTGGGAGGGGGAGGGGGAGGGGGAGGGGGAGGGGGAGGGGG	2401
1262	CGTGTCTTGGCAATTGGAGGAAATGGAGGGCCGAAAGCTGGCCCTTGCTGAGGCTTCTGAGGCTTCT	1381	D _b	2342	ACGGCCGGCTGGGAGGGGGAGGGGGAGGGGGAGGGGGAGGGGGAGGGGG	2401
1382	AGGGCTTCTCCCTCTGGCAAAAGGAATCAAAGTCTGTGAAAGGAAGCA	1441	Qy	2402	ATACATCTGGTGTGCTCATCTGGGACTGGGCACTGGGCTCATGGAGACCTGGTGTG	2462
1382	AGGGCTTCTCCCTCTGGCAAAAGGAATCAAAGTCTGTGAAAGGAAGCA	1441	D _b	2402	AGGGCTTCTCCCTCTGGTGTGCTCATCTGGGACTGGGCACTGGGCTCATGGAGACCTGGTGTG	2462
1442	GTTCTCTGGAAAGCTTCTGGAGACAACACGCTGTAGCGACCCCTTGAGGAGCGGG	1501.	Qy	2522	CGGGACAGGAACGGGTCAGGGCACTGGGAGGGGGAGGGGGAGGGGGAGGGGG	2581
1442	GTTCTCTGGAAAGCTTCTGGAGACAACACGCTGTAGCGACCCCTTGAGGAGCGGG	1501	D _b	2522	CGGGACAGGAACGGGTCAGGGCACTGGGAGGGGGAGGGGGAGGGGGAGGGGG	2581
1502	AACCCCCCACCTGGGCAAGAGTCCTGGCCAAAAGGCCAGCTGTCATAGATAACACT	1561	Qy	2582	CTGGGACCTGGTCAATTGGCTGTGTTGGACTGTGATCATGGCTGTCAGAAGACC	2641

Db	2582	CTGGCGACCTGGTCAATGGCGTGTGACTGTCTATAGTCGGGCTCAAGAC	2641	Qy	3722	TCACTGATCGACTGCAAATCATGTGTCAGTCAGCTGACCCGACC	3781
Qy	2642	CTTGCGGCCAAAGGGCCAATTACCCAAATTACACCAATTACGGGACCTCTGTC	2701	Db	3722	TCACTGATCGACTGCAAATCATGTGTCAGCTGCTGGACCCGACC	3781
Db	2642	CTTGCGGCCAAAGGGCCAATTACCCAAATTACACCAATTACGGGACCTCTGTC	2701	Qy	3782	TTCACATTGAGAACGCGACCGTGCACCAAGAACGGCTGACGCTGCAAGGGC	3841
Qy	2702	GCTGCCAAGGCCCCCCGGGGCTTCTGACACCATGACCTGGCAGCTGGAC	2761	Db	3782	TTCACATTGAGAACGCGACCTGGCAGCTGGACACGGCTGACGCTGCAAGGGC	3841
Db	2702	GCTGCCAAGGCCCCCCGGGGCTTCTGACACCATGACCTGGCAGCTGGAC	2761	Qy	3842	AGGACTGTAAGGGCGGATGGCAATTACAGGTTGTGACTTCAGCGAGAA	3901
Qy	2762	CPTTACPTGGTCAAGGAGATGGCGATGCGATGCTATTCCGGTCAAGAGG	2821	Db	3842	AGGACTGTAAGGGCGGATGGCAATTACAGGTTGTGACTTCAGCGAGAA	3901
Db	2762	CPTTACPTGGTCAAGGAGATGGCGATGCGATGCTATTCCGGTCAAGAGG	2821	Qy	3902	GGCATGTTGATTCTCCCGGTTCTGCGGAGTCAGCTGATAGCGGGCTGCTG	3961
Qy	2822	GGAGGCCCTACTCTCCCCAGGGCCGTCCTACTTGAAGGGCTCTGGGTCGACTG	2881	Db	3902	GGCATGTTGATTCTCCCGGTTCTGCGGAGTCAGCTGATAGCGGGCTGCTG	3961
Db	2822	GGAGGCCCTACTCTCCCCAGGGCCGTCCTACTTGAAGGGCTCTGGGTCGACTG	2881	Qy	3962	CTCACGCCGCGCGACCTGAGCTGAGCTGAGTACGGGGCTTACCTAACAC	4021
Qy	2882	CTCTGCCCTCTGGGCACGGCTGGGCACTTTCGGGTTGCAACCGGGGGT	2941	Db	3962	CTCACGCCGCGCGACCTGAGCTGAGTACGGGGCTTACCTAACACCGGGT	4021
Db	2882	CTCTGCCCTCTGGGCACGGCTGGGCACTTTCGGGTTGCAACCGGGGGT	2941	Qy	4022	GTCCTGGAGGACCATGGACTTCTGGAGCTGGGTTTACAGGGCTCACCAATAGAC	4081
Qy	2942	GCGAAGGGCAACTCTGGCCCTACCCAGAACATTCCAGGCCCCATCTAC	3001	Db	4022	GTCCTGGAGGACCATGGACTTCTGGAGCTGGGTTTACAGGGCTCACCAATAGAC	4081
Db	2942	GCGAAGGGCGTGAACCTGGTGAACCTGGTACCTGGGAAACCATATGGGCCCCGTC	3001	Qy	4082	GCCCCATTCTCTGTCAGACTAACGAAACTTCCCTACCTGGTAGATAAC	4141
Qy	3002	TTCACGGCAACTCTGGCCCTACCCAGAACATTCCAGGCCCCATCTAC	3061	Db	4082	GCCCCATTCTCTGTCAGACTAACGAAACTTCCCTACCTGGTAGATAAC	4141
Db	3002	TTCACGGCAACTCTGGCCCTACCCAGAACATTCCAGGCCCCATCTAC	3061	Qy	4142	CAGGCTACGGGTGTGGCCAGGGCTCGGGTACCCCTACATGGGACCAAATGTGAAG	4201
Qy	3062	GCCCCATTCTGGGCAAGGCAACTGGGCAAGGCAACTAACGCCCAGGSTAR	3121	Db	4142	CAGGCTACGGGTGTGGCCAGGGCTCGGGTACCCCTACATGGGACCAAATGTGAAG	4201
Db	3062	GCCCCATTCTGGGCAAGGCAACTGGGCAAGGCAACTAACGCCCAGGSTAR	3121	Qy	4202	TGTCTCTATAACGGCTTAAGGCTAACGCTGACGGCTAACACCCATACATGGCTG	4261
Qy	3122	AAGGTGTTGCTGAACCGTCCGTCCCACCGGTTGGGTATATGCT	3181	Db	4202	TGTCTCTATAACGGCTTAAGGCTAACGCTGACGGCTAACACCCATACATGGCTG	4261
Db	3122	AAGGTGTTGCTCTGAACCCGTCGTCGCAACCCCTAGGTTGGGCTATGTC	3181	Qy	4262	GCCGTTCAAACCGAGGTAACTACCAACACCCATACATGGCTGATGCGATG	4321
Qy	3182	AAGGCACATGGTATGACCTAACATCAGAACCGGGTAAGGACCATCACGGGTGC	3241	Db	4262	TGGGTCACCTGGGTTGACGACCACTGGGTGCTGGTAGGGAGTCCTAGCGCT	4321
Db	3182	AAGGCACATGGTATGACCTAACATCAGAACCGGGTAAGGACCATCACGGGTGC	3241	Qy	4322	CCCATCACGTTACCTGGGCAACTTCTGGCCAGGGTGGCTCTGGGGCGC	4381
Qy	3242	CCCATCACGTTACCTGGGCAACTTCTGGCCAGGGTGGCTCTGGGGCGC	3301	Db	4322	TGGGTCACCTGGGTTGACGACCACTGGGTGCTGGTAGGGAGTCCTAGCGT	4381
Db	3242	CCCATCACGTTACCTGGGCAACTTCTGGCCAGGGTGGCTCTGGGGCGC	3301	Qy	4382	CTGGCCGCGTATTGGCTGACACCCCTGGGAGCTGGGAGGATCATCTGTC	4441
Qy	3302	TATGACATATAATATGATGATGAGTGGCACTCACTGACTCGACCACTATCTGGGCATC	3361	Db	4382	CTGGCCGCGTATTGGCTGACACCCCTGGGAGCTGGGAGGATCATCTGTC	4441
Db	3302	TATGACATATAATATGATGATGAGTGGCACTCACTGACTCGACCACTATCTGGGCATC	3361	Qy	4442	GGAAAGCCGGCATCATTCGGACAGGGAACTCTTACCGGGAGTGGATGAGTGGAA	4501
Qy	3362	GGCACAGCTCTGGGACCAAGGGAGACGGCTGGGGCACTCTGGTCTCCACCGGT	3421	Db	4442	GGTGGAAATCCAAAGTGGGGACCTCTGGGGAAAGCATATGGGAAATTTCATC	4681
Db	3362	GGCACAGCTCTGGGACCAAGGGAGACGGCTGGGGCACTCTGGTCTCCACCGGT	3421	Qy	4502	AGTGGGCTCACACCTCCCTTAATGGAAGGGATGCACCTGGGAGCTGGCAACATG	4561
Qy	3422	AGCCCTGGGATGGTCAACCTGGCCACATCAGAACATGGAGGTTGGCTGGC	3481	Db	4502	CAGTGGGCTCACACCTCCCTTAATGGAAGGGATGCACCTGGGAGCTGGCAACATG	4561
Db	3422	AGCCCTGGGATGGTCAACCTGGCCACATCAGAACATGGAGGTTGGCTGGC	3481	Qy	4562	CAGAACCCAATTGGGTTGCTGAAAAGGCAACCCATGGGAGGAGCTGGT	4621
Qy	3482	ACTGGAGAATCCCTTTATGGCAACCCATGCCATGGAGGCTAACGGGGCAGG	3541	Db	4562	CAGAACCCAATTGGGTTGCTGAAAAGGCAACCCATGGGAGGAGCTGGT	4621
Db	3482	ACTGGAGAATCCCTTTATGGCAACCCATGCCATGGAGGCTAACGGGGCAGG	3541	Qy	4622	GTGGAAATCCAAAGTGGGGACCTCTGGGGAAAGCATATGGGAAATTTCATC	4741
Qy	3542	CACTCTCATTTCTGCCATTCCAAAGAACGAAATGTGATGAGCTGGCTGGCA	3601	Db	4622	GTGGAAATCCAAAGTGGGGACCTCTGGGGAAAGCATATGGGAAATTTCATC	4741
Db	3542	CACTCTCATTTCTGCCATTCCAAAGAACGAAATGTGATGAGCTGGCTGGCA	3601	Qy	4682	AGCGGGATACATATTAGGGCTTATCACGCGCTTGTCCACTCGCTGGCAACCCGGCATAGCATCA	4741
Qy	3602	CTGGGACTCAATGCTGATGACATTAACGGGGCTTGTGATGACCTGGCTGGCA	3661	Db	4682	CTGGGACTCAATGCTGATGACATTAACGGGGCTTGTGATGACCTGGCTGGCAACCCGGCATAGCATCA	4741
Db	3602	CTGGGACTCAATGCTGATGACATTAACGGGGCTTGTGATGACCTGGCTGGCA	3661	Qy	4742	CTGATGGCATTCAAGCGCTTATCACGCGCTTGTCCACTCGCTGGCAACCCGGCATAGCATCA	4801
Qy	3662	GGAGACGCTTATGTCGAGCAAGGACGCGCTTAATGAGGGCTTACGGGCCATTTCGAC	3721	Db	4742	CTGATGGCATTCAAGCGCTTATCACGCGCTTGTCCACTCGCTGGCAACCCGGCATAGCATCA	4801
Db	3662	GGAGACGCTTATGTCGAGCAAGGACGCGCTTAATGAGGGCTTACGGGCCATTTCGAC	3721				

Qy	AAATCCGGGATGGGCCAACTGCTCCCAAGCTGCTGCTTC	4861
Db	AACATCTGGGATGGGCCAACTGCTCCCAAGCTGCTGCTTC	4861
Db	GTAGGCCTGGCATCGCTGAGCGCTGTGGCAGCATAGCCTGGGAGCTGGTGGCTCTG	4921
Qy	GATATTTCGAGTTATGGAGGGTGTGAGGGCTCCTGCCTTAAGTCATG	4921
Qy	AGGGGAGATGCGCTCCACGAGGACTCTGTTAAGTCATG	4981
Db	GATATTTCGAGTTATGGAGGGCTCCTGCCTTAAGTCATG	4981
Db	TCCCGGATTAACACCCTCCACTCTGTTAAGTCATG	5041
Qy	AGGGGAGATGCGCTCCACGAGGACTCTGTTAAGTCATG	5041
Db	GGGCCCTAGTCCTGGGCTGTTGCGAGCATACTCGTGGCAAGCCAGGG	5101
Qy	GGGCCCTAGTCCTGGGCTGTTGCGAGCATACTCGTGGCAAGCCAGGG	5101
Db	GAGGGGCTGTCAGTGGATGAAACGGCTGATAGCGTTGCTGGGTTAACACCTTC	5161
Qy	GAGGGGCTGTCAGTGGATGAAACGGCTGATAGCGTTGCTGGGTTAACACCTTC	5161
Db	TCCCCACGCACTATGTCGCTGTCAGTGGATGAAACGGCTGATAGCGTTAACACCTTC	5221
Qy	TCCCCACGCACTATGTCGCTGTCAGTGGATGAAACGGCTGATAGCGTTAACACCTTC	5221
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Qy	AGCTTACATCACTCACTCGTGTGAAAGGGCTTCAACAGGGACTGCTTC	5281
Db	AAGCTTACATCACTCACTCGTGTGAAAGGGCTTCAACAGGGACTGCTTC	5281
Qy	ACGCCATGCTCCGGCTCGTGGCTAAGAGATGTTGGATTGGPATGGCTTGACT	5341
Db	ACGCCATGCTCCGGCTCGTGGCTAAGAGATGTTGGATTGGPATGGCTTGACT	5341
Qy	GATTCAAGACCTGGCTCAGTCCAAGGCTCTGGCGATGCTCCCTCTC	5401
Db	GATTCAAGACCTGGCTCAGTCCAAGGCTCTGGCGATGCTCCCTCTC	5401
Qy	TCATGTCACAGTGGGATCAAGGGAGCTCCTGGGGGATGGCTCATGGAAACCCTGC	5461
Db	TCATGTCACAGTGGGATCAAGGGAGCTCCTGGGGGATGGCTCATGGAAACCCTGC	5461
Qy	CCATGTGAGACAGATCACGGACATCTGAAAAGCTGTCATGAGGATCTGGGGCCT	5521
Db	CCATGTGAGACAGATCACGGACATCTGAAAAGCTGTCATGAGGATCTGGGGCCT	5521
Qy	AGGACCTGTGATGAACTTCCCATTAAAGCTGCTAACACCGGCC	5581
Db	AGGACCTGTGATGAACTTCCCATTAAAGCTGCTAACACCGGCC	5581
Qy	TGACGCCCTCCGGGCCAAATTATTCTAGGGCTGTGGGGTGGCTGTGAGGAG	5641
Db	TGACGCCCTCCGGGCCAAATTATTCTAGGGCTGTGGGGTGGCTGTGAGGAG	5641
Qy	TACGTGGAGTTACCGGGTGGGATTTCACACTGTCAGCTGAGCACTGACAAC	5701
Db	TACGTGGAGTTACCGGGTGGGATTTCACACTGTCAGCTGAGCACTGACAAC	5701
Qy	TTGCAAGCTACGTCAGGTCCAGGCTCCACATTCTGGT	5821
Db	TTGCAAGCTACGTCAGGTCCAGGCTCCACATTCTGGT	5821
Qy	TGCACTGGATTAACCTGGCTGGGAAACCGGACGTAGCA	5761
Db	TGCACTGGATTAACCTGGCTGGGAAACCGGACGTAGCA	5761
Qy	GGGTCAATATAATCTGGTGGTCAAGCTCCATGGGAAACCGGACGTAGCA	5881
Db	GGGTCAATATAATCTGGTGGTCAAGCTCCATGGGAAACCGGACGTAGCA	5881
Qy	CTATCCAGGCTTAACACATCCGCTTCAGGCTAACAGCTGGGAAAGGACTCTGGAAAGACT	5941
Qy	GGGTCACTCCATGTCAGGCTCCAGGCTAACAGCTGGGAAAGGACTCTGGAAAGACT	5942

Db	CATACCCAGGCGGTAAACCACATGGCAAAAATGAGGTTCTGGAGAACATCTGGAGACT	7021	Qy	8102 AAACTTGGGTTACGCCCTTGGCAGACTCTGGAGCATGGGCAAGTGTCGGCTTGGAGACT	8161			
Qy	GAGACCAATTGACACCACATGGCAAAAATGAGGTTCTGGTCAACCAGAG	7081	Db	8102 AAACTTGGGTTACGCCCTTGGCAGACTCTGGAGCATGGGCAAGTGTCGGCTTGGAGACT	8161			
Db	GAGACCAATTGACACCACATGGCAAAAATGAGGTTCTGGTCAACCAGAG	7081	Qy	8162 CTACTGTCCCAGGGGGAGGGGTGCACTTGTGGCAAGTACCTCTCAACTGGGAGATA	8221			
Qy	AAGGGGGCGCAAGCCAGTCGCCTATGGTATTCCAGATTGGGCTTCGGTGTGTC	7141	Db	8162 CTACTGTCCCAGGGGGAGGGGTGCACTTGTGGCAAGTACCTCTCAACTGGGAGATA	8221			
Db	AAGGGGGCGCAAGCCAGTCGCCTATGGTATTCCAGATTGGGCTTCGGTGTGTC	7141	Qy	8222 AGGACCAAGTCAACTCACTCCAACTCCATCCGCTGGCTGCACTGGGATTTATCCACCTGG	8281			
Qy	GACAAATGGCCTTTACATGGTGTCTCACCCCTCCCTAGGGCTGATGGCTCTCA	7201	Db	8222 AGGACCAAGTCAACTCACTCCAACTCCATCCGCTGGCTGCACTGGGATTTATCCACCTGG	8281			
Db	GACAAATGGCCTTTACATGGTGTCTCACCCCTCCCTAGGGCTGATGGCTCTCA	7201	Qy	8282 TTCTGTTGCTGGTTACAAGGGGAGACATATACAGCTGTCTGCCCCGACCCGC	8341			
Qy	TACGGATTCAAATACTCTCTGGACAGGGTGGAGTCTGTGAAATGCTTGGAAAGCG	7261	Db	8282 TTCTGTTGCTGGTTACAAGGGGAGACATATACAGCTGTCTGCCCCGACCCGC	8341			
Db	TACGGATTCAAATACTCTCTGGACAGGGTGGAGTCTGTGAAATGCTTGGAAAGCG	7261	Qy	8342 TGGTTTACCTGGTGTCTACTCTACTCTACTCTACTCTACTCTACTCTACTCTACT	8401			
Qy	ALGAATGCCCCATGGCTATGGGTTGACTCAAGGTACTCTAG	7321	Db	8342 TGGTTTACCTGGTGTCTACTCTACTCTACTCTACTCTACTCTACTCTACTCTACT	8401			
Db	ALGAATGCCCCATGGCTATGGGTTGACTCAAGGTACTCTACTCTACTCTACT	7321	Qy	8402 CGATGAACGGGAGGTAAACATCCAGGCAATAGGCCATCTGTCTTTCCTTTTT	8461			
Qy	AATGACATCCGTGTTGAGGAGTCAACTACAACTCTGTTGACTCAAGGTACT	7381	Db	8402 CGATGAACGGGAGGTAAACATCCAGGCAATAGGCCATCTGTCTTTCCTTTTT	8461			
Db	AATGACATCCGTGTTGAGGAGTCAACTACAACTCTGTTGACTCAAGGTACT	7381	Qy	8462 CCCTTT	8521			
Qy	CAGCCATAAGTGTGCTCAAGAGCGGTTTACATGGGGCCCCCTGACTTAATTCPAA	7441	Db	8462 TT	8511			
Db	CAGCCATAAGTGTGCTCAAGAGCGGTTTACATGGGGCCCCCTGACTTAATTCPAA	7441	Qy	8522 TCCCCCTTT	8581			
Qy	GGGAGAACTGGCTATGCCGTGAGGTGACTCTGACCAAGCTGGGT	7501	Db	8522 TCCCCCTTT	8581			
Db	GGGAGAACTGGCTATGCCGTGAGGTGACTCTGACCAAGCTGGGT	7501	Qy	8582 GCTGTGAAGGGCTGAGGCCGTGACTCGAGAGGTGTGATATGGCTCTCTCAG	8641			
Qy	AATACCCCTCACATGTTACTTGAAGGCCCTGTCAGCTGGAAGGTCCAGAC	7561	Db	8582 GCTGTGAAGGGCTGAGGCCGTGACTCGAGAGGTGTGATATGGCTCTCTCAG	8641			
Db	AATACCCCTCACATGTTACTTGAAGGCCCTGTCAGCTGGAAGGTCCAGAC	7561	Qy	8642 ATCAAGT 8648	8631			
Qy	TGACGATGCTCTATGGGAGACCTTGTGTTATCTGTGAAAGGGGGACCAA	7621	Db	8642 ATCAAGT 8648	8631			
Db	TGACGATGCTCTATGGGAGACCTTGTGTTATCTGTGAAAGGGGGACCAA	7621	Qy	8632 ATCAAGT 8638	8631			
Qy	GAGGAGGGAGGCCCTAAGGGCTATGGGCTATGGGCTTGGCCCT	7681	RESULT 3					
Db	GAGGAGGGAGGCCCTAAGGGCTATGGGCTTGGCCCT	7681	US-10-789-355-4					
Qy	GGGGACCGCCAAACCAAGATACTGACTGAGTTGACTCTCCAAATG	7741	; Sequence 4, Application US/10789355					
Db	GGGGACCGCCAAACCAAGATACTGACTGAGTTGACTCTCCAAATG	7741	; GENERAL INFORMATION:					
Qy	TCACTCGGGCACATGCACTCGGCAAAAGGGTGTACTATCTGAC	7801	; APPLICANT: BOERINGER INGELHEIM (CANADA) LTD.					
Db	TCACTCGGGCACATGCACTCGGCAAAAGGGTGTACTATCTGAC	7801	; TITLE OF INVENTION: SELF REPLICATING RNA MOLECULE FROM					
Qy	CCCTTGGGGCTGAGCTGAGGATGACTCTGCTGGCTTAGGC	7861	; FILE REFERENCE: 13 / 083					
Db	CCCTTGGGGCTGAGCTGAGGATGACTCTGCTGGCTTAGGC	7861	; CURRENT APPLICATION NUMBER: US/10/789 , 355					
Qy	TCCATCCPTCACTCGGACACTGAAAGCCCTAGATGTCATCTCG	7861	; CURRENT FILING DATE: 2004-02-27					
Db	TCCATCCPTCACTCGGACACTGAAAGCCCTAGATGTCATCTCG	7861	; PRIORITY NUMBER: US/10/029 , 907					
Qy	ACATCATCATGTTATGCCCTAGGATCTCTCTCTCTCTCTCT	7921	; PRIORITY FILING DATE: 2001-12-21					
Db	ACATCATCATGTTATGCCCTAGGATCTCTCTCTCTCTCTCT	7921	; PRIORITY FILING DATE: 2000-12-22					
Qy	TGTTACTCCATGAGGCCACTGACCTTCAACGATCAATGGGGCTTAC	8041	; NUMBER OF SEQ ID NOS: 25					
Db	TGTTACTCCATGAGGCCACTGACCTTCAACGATCAATGGGGCTTAC	8041	; SOFTWARE: FastSEQ for Windows Version 4.0					
Qy	GGATTTTCACTCCATAGTACTCTCCAGTGGAGACAGTCACTGGCTTAC	8101	; SEQ ID NO: 4					
Db	GGATTTTCACTCCATAGTACTCTCCAGTGGAGACAGTCACTGGCTTAC	8101	; LENGTH: 8643					
Qy	GGATTTTCACTCCATAGTACTCTCCAGTGGAGACAGTCACTGGCTTAC	8101	; TYPE: DNA					
Db	GGATTTTCACTCCATAGTACTCTCCAGTGGAGACAGTCACTGGCTTAC	8101	; ORGANISM: HCV					
Qy	TGTTACTCCATGAGGCCACTGACCTTCAACGATCAATGGGGCTTAC	8101	; FEATURE:					
Db	TGTTACTCCATGAGGCCACTGACCTTCAACGATCAATGGGGCTTAC	8101	; NAME/KEY: CDS					
Qy	GGATTTTCACTCCATAGTACTCTCCAGTGGAGACAGTCACTGGCTTAC	8101	; LOCATION: (1802) . . . (8407)					
Db	GGATTTTCACTCCATAGTACTCTCCAGTGGAGACAGTCACTGGCTTAC	8101	; US-10-789-355-4					
Qy	Query Match Similarity : 99.3%; Best Local Similarity : 99.6%; Matches 8614;	8643;	Qy	Query Match Similarity : 99.3%; Best Local Similarity : 99.6%; Matches 8614;	8643;	Qy	Query Match Similarity : 99.3%; Best Local Similarity : 99.6%; Matches 8614;	8643;
Db	Conservative ; Mismatches 28;	Indels 5;	Db	Conservative ; Mismatches 28;	Indels 5;	Db	Conservative ; Mismatches 28;	Indels 5;
Qy	Score 8584.7; Pred. No. 0;	Score 8584.7; Pred. No. 0;	Qy	Score 8584.7; Pred. No. 0;	Score 8584.7; Pred. No. 0;	Qy	Score 8584.7; Pred. No. 0;	Score 8584.7; Pred. No. 0;
Db	;	;	Db	;	;	Db	;	;

Db	2	CCAGCCCCGATTGGGGCAGACTCCACATAGATCACITCCCCTGTGAGGAACITACTGT	61		1142	GCGCATCGCCTCTATCGCCTTCTTGAGGTTCTTCAGTTGGGCCAGATGTAAAC	1201
Qy	62	CTTCA CCAGA AAG GCT TAG CGG AT TGC GG T AG T AT GAG T GT G T G C C A G G A C C	121	Db	1142	GCGCATCGCCTCTATCGCCTTCTTGAGGTTCTTCAGTTGGGCCAGATGTAAAC	1201
Db	62	CTTCA CCAGA AAG GCT TAG CGG AT TGC GG T AG T AT GAG T GT G T G C C A G G A C C	121	Qy	1202	AGACCAAAAGGTTTCCCTCTA CGGGATCAATTGGCCCTCCCTAACGTTACTGGC	1261
Qy	122	CCCCCTCCGGAGGCCATTAGGGTCTGGGAACCCGTGAGTACCGGATATGGCAGG	181	Db	1202	AGACCAAAAGGTTTCCCTCTA CGGGATCAATTGGCCCTCCCTAACGTTACTGGC	1261
Db	122	CCCCCTCCGGAGGCCATTAGGGTCTGGGAACCCGTGAGTACCGGATATGGCAGG	181	Qy	1262	CGAAGCCGGCTTGGATAAGCCGGTGTGGTCTCTGAGGATATCTGAGGATCTCT	1321
Qy	182	AGACCCGGTCCCTTCTGTGATCAACCCTGCAATGCTGGAGATTGGCTGGCCCG	241	Db	1262	CGAAGCCGGCTTGGATAAGCCGGTGTGGTCTCTGAGGATATCTGAGGATCTCT	1321
Db	182	AGACCCGGTCCCTTCTGTGATCAACCCTGCAATGCTGGAGATTGGCTGGCCCG	241	Qy	1322	CCGTTCTTGGCAATGTAAGCCGGGGAACCTGGCCCTGCTCTGAGGATCTCT	1381
Qy	242	CGAGACTGCTAGCCGAGTAGTTGGCTGGATAGCTGGTACTGCTGATAGG	301	Db	1322	CGGTTCTTGGCAATGTAAGCCGGGGAACCTGGCCCTGCTCTGAGGATCTCT	1381
Db	242	CGAGACTGCTAGCCGAGTAGTTGGCTGGATAGCTGGTACTGCTGATAGG	301	Qy	1382	AGGGTCTTCCCTCTCGCCA AAGGAATGCAAGGTCTTGAATGTCGTAAGAAGCA	1441
Qy	302	TGTTGCGAATGCCCGGGAGGCTCTCTAGCCGTGACCATGAGACGAATCTAAC	361	Db	1382	AGGGTCTTCCCTCTCGCCA AAGGAATGCAAGGTCTTGAATGTCGTAAGAAGCA	1441
Db	302	TGTTTGCAGTGGCCCGGGAGGCTCTCTAGCCGTGACCATGAGACGAATCTAAC	361	Qy	1442	GTTCCTCTGGAAAGCTCTGGCAAGCTGACCTCTGGAGCCCTTGGAGCGGG	1501
Qy	362	TCAAAGAAAACCAAGGGGGCCATGATGAAAGATGATTGGCAGGGTCTCC	421	Db	1442	GTTCCTCTGGAAAGCTCTGGCAAGCTGACCTCTGGAGCCCTTGGAGCGGG	1501
Db	362	TCAAAGAAAACCAAGGGGGCCATGATGAAAGATGATTGGCAGGGTCTCC	421	Qy	1502	AACCCCCA CCTGGGGAGGGTCTCTGGCAAAGCCACCTGTTAGATACACCT	1561
Qy	422	GGCCGCTTGGGGAGGCTATTGGGCTATTGGGCTATTGGGCTATTGGGCT	481	Db	1502	AACCCCCA CCTGGGGAGGGTCTCTGGCAAAGCCACCTGTTAGATACACCT	1561
Db	422	GGCCGCTTGGGGAGGCTATTGGGCTATTGGGCTATTGGGCTATTGGGCT	481	Qy	1562	GCAAAGGGCACACCCAGTGGCACTGTTGAGCTGAGTGTGAAAGACTCAA	1621
Qy	482	TGATGCCCGTGTCTGGCTTCCGGTGTGAGGACGGACGGAGCTGGCGA	541	Db	1562	GCAAAGGGCACACCCAGTGGCACTGTTGAGCTGAGTGTGAAAGACTCAA	1621
Db	482	TGATGCCCGTGTCTGGCTTCCGGTGTGAGGACGGACGGAGCTGGCGA	541	Qy	1622	TGGGTTCTCCIAAGGGTATICAACAGGGCTCTGAGGATACCCCTATGT	1681
Qy	542	CTTGTCTGGTGGCCCTGATGAACTGGCAGGGCAGGGCCTATGTGGCTGCCAC	601	Db	1622	TGGGTTCTCCIAAGGGTATICAACAGGGCTCTGAGGATACCCCTATGT	1681
Db	542	CTTGTCTGGTGGCCCTGATGAACTGGCAGGGCAGGGCCTATGTGGCTGCCAC	601	Qy	1682	ATGGGATCTGATCTGGGCTCTGGTCACTGGTCTAGTGGTTAGTGGAGTTAAA	1741
Qy	602	GGGGGGCTTCTTGGCACTGGCTGGGCTGGGCTGGGCTGGGCTGGGCT	661	Db	1682	ATGGGATCTGATCTGGGCTCTGGTCACTGGTCTAGTGGTTAGTGGAGTTAAA	1741
Db	602	GGGGGGCTTCTTGGCACTGGCTGGGCTGGGCTGGGCTGGGCTGGGCT	661	Qy	1742	AACGTTCTAGGCCCCGGAAACACGGGGCACTGGGTTCCCTTGAAAAACCGATA	1801
Qy	662	GCTATTGGCGAAGTGGGGAGGATTCTCTGTCATCTCACTGTCTGGCCAGAA	721	Db	1742	AACGTTCTAGGCCCCGGAAACACGGGGCACTGGGTTCCCTTGAAAAACCGATA	1801
Db	662	GCTATTGGCGAAGTGGGGAGGATTCTCTGTCATCTCACTGTCTGGCCAGAA	721	Qy	1802	ATGGACGGGAGATGGCAGCATGGGGCTCTGGCTGGGCTGGGCTGGGCTGG	1861
Qy	722	AGTATCCATCATGGCTGATGCAATGGCCTGGGCTACCTGGTCC	781	Db	1802	ATGGACGGGAGATGGCAGCATGGGGCTCTGGCTGGGCTGGGCTGG	1861
Db	722	AGTATCCATCATGGCTGATGCAATGGCCTGGGCTACCTGGTCC	781	Qy	1862	ACCTTGTCACGGCACTATAGCTGGTCTCTGGCTAGGCTCATATGGGTTACAATTTT	1921
Qy	782	ATTCGACCAAGGCAAAACATGGCATGGGAGGATCTGGTCTGGCTGGCT	841	Db	1862	ACCTTGTCACGGCACTATAGCTGGTCTCTGGCTAGGCTCATATGGGTTACAATTTT	1921
Db	782	ATTCGACCAAGGCAAAACATGGCATGGGAGGATCTGGTCTGGCTGGCT	841	Qy	1922	ATCACCAGGGCGAGGCAACTGGCAAGTGGATCTGGTCTGGCTGGCTGG	1981
Qy	842	TGTTGATCAGGATGATCTGACCAAGGCAATGGCATGGGGTGGCCAGGACTGGT	901	Db	1922	ATCACCAGGGCGAGGCAACTGGCAAGTGGATCTGGTCTGGCTGGCTGG	1981
Db	842	TGTTGATCAGGATGATCTGACCAAGGCAATGGCATGGGGTGGCCAGGACTGGT	901	Qy	1982	CGCGATGCCCTCATCTCCCTCACTGGGGCTCTGGCTGGCTGGCTGG	2041
Qy	902	CAGGCTCAAGGGCGCCTGGGCTACCTGGGCTGGGATCTCTGGTACCCATGG	961	Db	1982	CGCGATGCCCTCATCTCCCTCACTGGGGCTCTGGCTGGCTGGCTGG	2041
Db	902	CAGGCTCAAGGGCGCCTGGGCTACCTGGGCTGGGATCTCTGGTACCCATGG	961	Qy	2042	AAATCTTGTGCTGGCTACTCTGGTCACTCATGGGGCTCTGGCTGGCTGG	2101
Qy	962	CTTGCCGAATATGGCGAANATGGCGGAAATGGCGGCTGGCTGGCTGG	1021	Db	2042	AAATCTTGTGCTGGCTACTCTGGTCACTCATGGGGCTCTGGCTGGCTGG	2101
Db	962	CTTGCCGAATATGGCGAANATGGCGGCTGGCTGGCTGGCTGG	1021	Qy	2102	CCGTAATTCGTCGCACTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGG	2161
Qy	1022	GGGTGTGGGGAGCCGCTATGGACCAAGTGGCTGGCTGGCTGGCTGG	1081	Db	2102	CCGTAATTCGTCGCACTGGCTGGCTGGCTGGCTGGCTGGCTGG	2161
Db	1022	GGGTGTGGGGAGCCGCTATGGACCAAGTGGCTGGCTGGCTGGCTGG	1081	Qy	2162	GGGGCCATTATGGTCCAAATGGCTCATGAGGTTGGCCGACTGAGTGTGTT	2221
Qy	1082	TGGGGCGAATGGCTGACCGCTTACGGCATGGCTGGCTGGCTGGCTGG	1141	Db	2162	GGGGCCATTATGGTCCAAATGGCTCATGAGGTTGGCCGACTGAGTGTGTT	2221
Db	1082	TGGGGCGAATGGCTGACCGCTTACGGCATGGCTGGCTGGCTGGCTGG	1141				

Db	4382	CTGGCCGGTATTGCCCTGACAACAGGGAGCGGGTCATTGTGGCAGGATGATCTTGTCC 4441	Qy		5522 AGGACTGTAGTAACCGTGGCATGGAACTTCCCATAACCGTACACCGGCC 5581
Qy	4442	GAAAAGCGGCCATATTCGCCATACCGGGAGAGCTTACCGGGAGTCGAGATGGAA 4501	Db	5522 AGGACTGTAGTAACCGTGGCATGGAACTTCCCATAACCGTACACCGGCC 5581	
Db	4442	GAAAAGCGGCCATATTCGCCATACCGGGAGAGCTTACCGGGAGTCGAGATGGAA 4501	Qy		5582 TGCACGCCCTCCGGGCAAATTATTCTAGGGCGCTGGGGTGGCTGGAGGAG 5641
Qy	4502	GAATGGGCTCAACCCCTCACATGAAACAGGGATGCACTGCGGAAATTCAA 4561	Db	5582 TGCACGCCCTCCGGGCAAATTATTCTAGGGCGCTGGGGTGGCTGGAGGAG 5641	
Db	4502	GAATGGGCTCAACCCCTCACATGAAACAGGGATGCACTGCGGAAATTCAA 4561	Qy		5642 TACGTGGAGTTACCGGGGGGAAATTCTCACTAGTGAACGGGATGACCTCAAC 5701
Qy	4562	CAGAAGGCTAACGGGTTGCTGCAACACGGGCTGCTGGCTCCCGTGG 4621	Db	5642 TACGTGGAGTTACCGGGGGAAATTCTCACTAGTGAACGGGATGACCTCAAC 5701	
Db	4562	CAGAAGGCTAACGGGTTGCTGCAACACGGGCTGCTGGCTCCCGTGG 4621	Qy		5702 GTAAGCTGGGGTGTAGGTTGGCCCGGAATTCTCAAGAAGTGGATGGTGGG 5761
Qy	4622	GTCGAATTCAGTGGCCACCCCTTCGAGGCTCTGGCAAGCATATGGGAATTTC 4681	Db	5702 GTAAGCTGGGGTGTAGGTTGGCCCGGAATTCTCAAGAAGTGGATGGTGGG 5761	
Db	4622	GTCGAATTCAGTGGCCACCCCTTCGAGGCTCTGGCAAGCATATGGGAATTTC 4681	Qy		5762 TTGCACAGGTACGCTCAGGGGTGCAACATTCGGAGGAGCTCACATTGGTC 5821
Qy	4682	AGGGGATAAAATTAGCAGCTTGTCACTCTGCTGGAAACCCGGATAGATCA 4741	Db	5762 TTGCACAGGTACGCTCAGGGGTGCAACATTCGGAGGAGCTCACATTGGTC 5821	
Db	4682	AGGGGATAAAATTAGCAGCTTGTCACTCTGCTGGAAACCCGGATAGATCA 4741	Qy		5822 GGCTTAATCAATACCTGGTGGGTCAGCTGGCCCATGGGGACCTAGGCA 5881
Qy	4742	CITGATGGGATTACAGCCCTCTGGGAAACCTCTGGCTT 4801	Db	5822 GGCTTAATCAATACCTGGTGGGTCAGCTGGCCCATGGGGACCTAGGCA 5881	
Db	4742	CITGATGGGATTACAGCCCTCTGGGAAACCTCTGGCTT 4801	Qy		5882 GTGCTAACCTCCATGGCTACGACCCTCCACATACGGGGATAAGCTTAGG 5941
Qy	4802	ACATCTGGGGATGGTGGCCACACTGGCTCTCCAGGCTGCTCTGGTTTC 4861	Db	5882 GTGCTAACCTCCATGGCTACGACCCTCCACATACGGGGATAAGCTTAGG 5941	
Qy	4802	ACATCTGGGGATGGTGGCCACACTGGCTCTCCAGGCTGCTCTGGTTTC 4861	Qy		5942 CTGGCAGGGGATCTCCCCCTCTGGGAGCTCATACGGGGACGGTAGCTGGCCC 6001
Db	4862	GTAAGGGCAGGATGGCTGGGAGTGGCAGATAGGGCTTGGAAAGTGTTG 4921	Db	5942 CTGGCAGGGGATCTCCCCCTCTGGGAGCTCATACGGGGACGGTAGCTGGCCC 6001	
Db	4862	GTAAGGGCAGGATGGCTGGGAGTGGCAGATAGGGCTTGGAAAGTGTTG 4921	Qy		6002 TCCTTAAGGAAACATGCACTCCGCTCATGACTCCCGAAGCMACCTCATGGGCC 6061
Qy	4922	GATATTTCGCAAGGTTATGAGGGGTTGGCTGGGGCTTAAGGTCTATG 4981	Db	6002 TCCTTAAGGAAACATGCACTCCGCTCATGACTCCCGAAGCMACCTCATGGGCC 6061	
Db	4922	GATATTTCGCAAGGTTATGAGGGGTTGGCTGGGGCTTAAGGTCTATG 4981	Qy		6062 AACCTCTGGGGAGATCTGGGGAGATGGGGAGATGGGGAGATGGGGAGATGGGGAG 6121
Qy	4982	AECGGCGAGATGGCCCTAACCTACCTCCCTGTATCTCTCCCT 5041	Db	6062 AACCTCTGGGGAGATCTGGGGAGATGGGGAGATGGGGAGATGGGGAG 6121	
Db	4982	AECGGCGAGATGGCCCTAACCTACCTCCCTGTATCTCTCCCT 5041	Qy		6122 GTAGTAAATTGGACTCTTTCGGCCGCTCCAAGGGAGGGATAGAGGAATGATCC 6181
Qy	5042	GGGGCCCTAGTCCTGGGGTGTGGGGAGGAACTGGTGCTGGCCAGGG 5101	Db	6122 GTAGTAAATTGGACTCTTTCGGCCGCTCCAAGGGAGGGATAGAGGAATGATCC 6181	
Db	5042	GGGGCCCTAGTCCTGGGGTGTGGGGAGGAACTGGTGCTGGCCAGGG 5101	Qy		6182 GTTCCGGGGAGATCTGGGGAGATCTGGGGAGATGGGGAGATGGGGAG 6241
Qy	5102	GAGGGGGGGTGTGGAGTGGATGAAACGGGTGATGGCTGGCTCTCT 5161	Db	6182 GTTCCGGGGAGATCTGGGGAGATCTGGGGAGATGGGGAGATGGGGAG 6241	
Db	5102	GAGGGGGGGTGTGGAGTGGATGAAACGGGTGATGGCTGGCTCTCT 5161	Qy		6242 CGCCCGGATACACCTCCACTGTTAGAGTCCTGGAAAGGACCCGGACTAGTCCCTCCA 6301
Qy	5162	TCCCCCAGCACATGCTGGGAGGATCTGGCTGGGGAGGATCTGGCTGGGGAGGG 5221	Db	6242 CGCCCGGATACACCTCCACTGTTAGAGTCCTGGAAAGGACCCGGACTAGTCCCTCCA 6301	
Db	5162	TCCCCCACACATGCTGGGAGGATCTGGCTGGGGAGGG 5221	Qy		6302 GTGGTACACGGGGTGTGTCATTSCCGGGCTCCGATACACCTCCAGGG 6361
Db	5222	AGCTTACCATCACTCACTGGCTGGGAGGATCTGGCTGGGGAGGG 5281	Db	6302 GTGGTACACGGGGTGTGTCATTSCCGGGCTCCGATACACCTCCAGGG 6361	
Db	5222	AGCTTACCATCACTCACTGGCTGGGAGGATCTGGCTGGGGAGGG 5281	Qy		6362 AAGACCTTGGGGCTCCGATGGCTGGGGAGGGCTGGGGAGGG 6421
Qy	5282	ACCCATGGCTCCGGCTCGGGTAAGGATGCTGGGGATGGTGGTGA 5341	Db	6362 AAGACCTTGGGGCTCCGATGGCTGGGGAGGGCTGGGGAGGG 6421	
Db	5282	ACCCATGGCTCCGGCTCGGGTAAGGATGCTGGGGATGGTGGTGA 5341	Qy		6422 GACCAACCTCGGAGCTGGGGAGGGCTGGGGAGGGCTGGGGAGGG 6481
Qy	5342	GATTCAAGACGGCTCGGGTAAGGATGCTGGGGATGGTGGTGA 5401	Db	6422 GACCAACCTCGGAGCTGGGGAGGGCTGGGGAGGGCTGGGGAGGG 6481	
Db	5342	GATTCAAGACGGCTCGGGTAAGGATGCTGGGGATGGTGGTGA 5401	Qy		6482 CCCCTGGGGGAGGGGGGATCCGATCTGGGGATCTGGGGATCTGGGGAGGG 6601
Qy	5402	TCATGTCAGCTGGGATCAAGGAGTCTGGGGGGGATGGGGATCTGGGGGG 5461	Db	6482 CCCCTGGGGGAGGGGGATCCGATCTGGGGATCTGGGGATCTGGGGAGGG 6601	
Db	5402	TCATGTCAGCTGGGATCAAGGAGTCTGGGGGGGATGGGGATCTGGGGGG 5461	Qy		6542 CCCCTGGGGGAGGGGGATCCGATCTGGGGATCTGGGGATCTGGGGAGGG 6601
Qy	5462	CCATGTCAGGACAGATCCGGGACATGTTGAAAAACTSTCCATGAGGATCTGGGGCC 5521	Db	6542 CCCCTGGGGGAGGGGGATCCGATCTGGGGATCTGGGGAGGG 6601	
Db	5462	CCATGTCAGGACAGATCCGGGACATGTTGAAAAACTSTCCATGAGGATCTGGGGCC 5521			

TITLE OF INVENTION: SELF REPLICATING RNA MOLECULE FROM
 TITLE OF INVENTION: HEPATITIS C VIRUS
 FILE REFERENCE: 13/083
 CURRENT APPLICATION NUMBER: US/10/789,355
 CURRENT FILING DATE: 2004-02-27
 PRIORITY APPLICATION NUMBER: US/10/029,907
 PRIOR FILING DATE: 2001-12-21
 PRIORITY APPLICATION NUMBER: 60/257,857
 PRIOR FILING DATE: 2000-12-22
 NUMBER OF SEQ ID NOS: 25
 SOFTWARE: FastSEQ For Windows Version 4.0
 SEQ ID NO: 7
 LENGTH: 8638
 TYPE: DNA
 ORGANISM: HCV
 FEATURE: CDS
 NAME/KEY: (1802) . . . (8407)
 LOCATION: (1802) . . . (8407)

Query Match 99.2%; Score 8578.2; DB 1; Length 8638;
 Best Local Similarity 99.6%; Pred. No. 0;
 Matches 8610; Conservative 0; Mismatches 28; Indels 10; Gaps 1;

Qy	1	GCCAGCCCCGATGGGGCGAACCTACCACTCCCTTGAGGAACACTG	60	Db	1	GCCAGCCCCGATGGGGCGAACACTCCCTTGAGGAACACTG	60
Qy	61	TCTTACGGAGAAGCGTGTAGCCATGCCATGGCTGAGTCGAGC	120	Db	61	TCTTACGGAGAAGCGTGTAGCCATGCCATGGCTGAGTCGAGC	120
Qy	121	CCCCCTCCGGAGAGCCATACTGGCTGAGTCGAGTACACGGAAATTG	180	Db	121	CCCCCTCCGGAGAGCCATACTGGCTGAGTCGAGTACACGGAAATTG	180
Db	121	CCCCCTCCGGAGAGCCATACTGGCTGAGTCGAGTACACGGAAATTG	180	Db	181	GACCAACGGTCTTCTGGATCAACCCGCTTAATGCTGGAGATTGG	240
Qy	181	GACCAACGGTCTTCTGGATCAACCCGCTTAATGCTGGAGATTGG	240	Db	181	GACCAACGGTCTTCTGGATCAACCCGCTTAATGCTGGAGATTGG	240
Qy	241	GCGAGACTCTAGCGAGTAGTGTGGTGGAAAGGCCTTGTGATAG	300	Db	241	GCGAGACTCTAGCGAGTAGTGTGGTGGAAAGGCCTTGTGATAG	300
Qy	301	GTGGTTGCAGTGCCTGGAGGTCTCTGGATCCATGGCAACCTAAAC	360	Db	301	GTGGTTGCAGTGCCTGGAGGTCTCTGGATCCATGGCAACCTAAAC	360
Qy	361	CTCAAAAGAAAAACAAAGGGCGCCATATTGAAACAGATGGATTG	420	Db	361	CTCAAAAGAAAAACAAAGGGCGCCATATTGAAACAGATGGATTG	420
Qy	421	CGGCGCTTGGTGGAGGCTATTGGGTATGACTGGCACACAGAAC	480	Db	421	CGGCGCTTGGTGGAGGCTATTGGGTATGACTGGCACACAGAAC	480
Qy	481	CTGATGCCCGCTGCTGAACTGAGGCAAGGGCGGGTCTTTGTAAG	540	Db	481	CTGATGCCCGCTGCTGAACTGAGGCAAGGGCGGGTCTTTGTAAG	540
Qy	541	ACCTGTCCCGTGGCTGAACTGAGGCAAGGGCGCTATGTTGCTG	600	Db	541	ACCTGTCCCGTGGCTGAACTGAGGCAAGGGCGCTATGTTGCTG	600
Qy	601	CGACGGGGTCCPCTGGAAGCTGGCTGAGCCAGGGGACTCGC	660	Db	601	CGACGGGGTCCPCTGGAAGCTGGCTGAGCCAGGGGACTCGC	660
Qy	661	TGCTATTGGCGGAAGTGCCTGGAGGATCTCCCTGTCATCTAC	720	Db	661	TGCTATTGGCGGAAGTGCCTGGAGGATCTCCCTGTCATCTAC	720
Qy	721	AAGPATCCATCATGGCTGATGCCAATGCCGGCTGCAATAGC	780	Qy	721	AAGPATCCATCATGGCTGATGCCAATGCCGGCTGCAATAGC	780
Qy	781	CATTCCACCACCAAGGAAACATCGCACTGAGGCACTACTCG	840	Db	781	CATTCCACCACCAAGGAAACATCGCACTGAGGCACTACTCG	840
Qy	841	TTGTCCATCAGGATGTTGAGCAAGGAGATCAGGCCAACCTTC	900	Db	841	TTGTCCATCAGGATGTTGAGCAAGGAGATCAGGCCAACCTTC	900
Qy	901	CCAGGGCTCAAGGGCCATGCCGAAGGGATCTGTAACCCATGG	960	Db	901	CCAGGGCTCAAGGGCCATGCCGAAGGGATCTGTAACCCATGG	960
Qy	961	GCTTGCCTGAATPATCATGGTCAAATGGCCCTTCTGGATTCTG	1020	Db	961	GCTTGCCTGAATPATCATGGTCAAATGGCCCTTCTGGATTCTG	1020
Qy	1021	TGGGTGTGGGGACCCCTACAGGAACTACGGACATAGCGT	1080	Db	1021	TGGGTGTGGGGACCCCTACAGGAACTACGGACATAGCGT	1080
Qy	1081	TGGGGCGGAATGGGGTACGGCTCTCGCTGCTACGGTATCG	1140	Db	1081	TGGGGCGGAATGGGGTACGGCTCTCGCTGCTACGGTATCG	1140
Qy	1141	AGCGCATCGCCCTTCTGCTGCTTCTGAGCTCCGCCAGATTTAA	1200	Db	1141	AGCGCATCGCCCTTCTGCTGCTTCTGAGCTCCGCCAGATTTAA	1200
Qy	1201	CAGACACAAAGGGTTCCCTAGGGGATAATTGGCCCTTAACGTT	1260	Db	1201	CAGACACAAAGGGTTCCCTAGGGGATAATTGGCCCTTAACGTT	1260
Qy	1201	CAGACACAAAGGGTTCCCTAGGGGATAATTGGCCCTTAACGTT	1260	Db	1201	CAGACACAAAGGGTTCCCTAGGGGATAATTGGCCCTTAACGTT	1260
Qy	1321	CCGGTTTTGGCAACTGAGGGCCCTTAATTGGGATAATTGCTT	1380	Db	1321	CCGGTTTTGGCAACTGAGGGCCCTTAATTGGGATAATTGCTT	1380
Qy	1381	TAGGGGCTTCTCCCTTCGCAAAGGAAATGCAAGCTGTGAAAG	1440	Db	1381	TAGGGGCTTCTCCCTTCGCAAAGGAAATGCAAGCTGTGAAAG	1440
Qy	1441	AGTTCTCTGGAAGCTCTGGCTCTGGACCTTTCGAGGAGC	1500	Db	1441	AGTTCTCTGGAAGCTCTGGCTCTGGACCTTTCGAGGAGC	1500
Qy	1561	TGCAAAAGGGCAACACCCACTGCAAGGTCTGAGACATGCTAA	1620	Db	1561	TGCAAAAGGGCAACACCCACTGCAAGGTCTGAGACATGCTAA	1620
Qy	1621	ATGGCTCTCCCTGAAAGCTTACGTTAGTGTGGTGAAGT	1680	Db	1621	ATGGCTCTCCCTGAAAGCTTACGTTAGTGTGGTGAAGT	1680
Qy	1681	TATGGGATCTGATCTGCTGCTGCTGCTGCTGCTGCTGCTG	1740	Db	1681	TATGGGATCTGATCTGCTGCTGCTGCTGCTGCTGCTGCTG	1740
Qy	1741	AAACGTCCTAGGCCCCGAAACACGGCTATGCTGTTTACGAT	1800	Db	1741	AAACGTCCTAGGCCCCGAAACACGGCTATGCTGTTTACGAT	1800
Qy	1801	CATGGACGGGGGAAATGCCATGCTGCTGCTGCTGCTGCTG	1860	Db	1801	CATGGACGGGGGAAATGCCATGCTGCTGCTGCTGCTGCTG	1860

Db	1801.	CATGGACCCGGAGATGGCAGCATGTGCGAGGGCGTTTCTGAGGTCTGATACTCT	1860	Qy	2941	TCCGAAGGGCCTGAGCTATGGACACTATGGCTATCGACTATGGACCACTATGGCTCCCGGT	3 000
Qy	1861.	GACCTTGTAACCGCACTTAAAGCTTCTTCGGTCTAGGCTCATATGGCTGATATT	1920	Db	2941	TGCAGAAGGGTGGATTTGTACCCCTGAGCTATGGACACTATGGCTCCCGGT	3 000
Db	1861.	GACCTTGTAACCGCACTTAAAGCTTCTTCGGTCTAGGCTCATATGGCTGATATT	1920	Qy	3001	CTTCAGGACAACTCTCCGCCCTCGGCCGTTACCGAGACATTCAGGGCCATCTGAT	3 060
Qy	1921.	TATCACAGGGCCAGGCAACTGCAAGTGGATCCCCCTCAAGTGGTGGGGGG	1980	Db	3001	CTTCAGGACAACTCTCCGCCCTCGGCCGTTACCGAGACATTCAGGGCCATCTGAT	3 060
Db	1921.	TATCACAGGGCCAGGCAACTGCAAGTGGATCCCCCTCAAGTGGTGGGGGG	1980	Qy	3061	CGCCCTACTCTGGGGAGAGCTAAGTGGCTGAGCTAAGTGGCTGAGCTAAGGGTA	3 120
Qy	1981.	CCGGATGCGTCACTCTCTCACTGCGCATCACCGAGCTAACCTTACCATCAC	2040	Db	3061	CGCCCTACTCTGGGGAGAGCTAAGTGGCTGAGCTAAGTGGCTGAGCTAAGGGTA	3 120
Db	1981.	CCGGATGCGTCACTCTCTCACTGCGCATCACCGAGCTAACCTTACCATCAC	2040	Qy	3121	TAAGGGCTTGTCTGCTGAACCGGTCCCTGCGCACCCTAGTTGGGGCTATATGTC	3 180
Qy	2041.	CAAATCTTGTCTCCCAACTCTGCTTACCTGCACTGGCTTACCAAAAGT	2100	Db	3121	TAAGGGCTTGTCTGCTGAACCGGTCCCTGCGCACCCTAGTTGGGGCTATATGTC	3 180
Db	2041.	CAAATCTTGTCTCCCAACTCTGCTTACCTGCACTGGCTTACCAAAAGT	2100	Qy	3181	TAAGGGCACATGCTGACCCCTAACATCAAGACCGGGTAAGGACCATCACAGGGTGC	3 240
Qy	2101.	GCGCTACTGTGGCGCACCGGGCTAACCTGGCTATGCTGGTGGAAAGGTGC	2160	Db	3181	TAAGGGCACATGCTGACCCCTAACATCAAGACCGGGTAAGGACCATCACAGGGTGC	3 240
Db	2101.	GCGCTACTGTGGCGCACCGGGCTAACCTGGCTATGCTGGTGGAAAGGTGC	2160	Qy	3241	CCCCATACGFACTCCACCPATGGCAAGTTCCTGGCTGCTGGGCGGC	3 300
Qy	2161.	TGGGGTCTATTATGCCAATGGCTCTCTGTGAAGTTGGCACTGACAGT	2220	Db	3241	CCCCATACGFACTCCACCPATGGCAAGTTCCTGGCTGCTGGGCGGC	3 300
Db	2161.	TGGGGTCTATTATGCCAATGGCTCTCTGTGAAGTTGGCACTGACAGT	2220	Qy	3301	CTATGACATCATATAATGTTGAGTGGCTGACACTATCTGGCAT	3 360
Qy	2221.	TTATGACCCATCTACCCCACTGGGCACTGGGCTAACCTGGGCTAACCTGGG	2280	Db	3301	CTATGACATCATATAATGTTGAGTGGCTGACACTATCTGGCAT	3 360
Db	2221.	TTATGACCCATCTACCCCACTGGGCACTGGGCTAACCTGGGCTAACCTGGG	2280	Qy	3361	CGGCACAGTCCTGGACCAAGGGAGGGCTGGAGGCTGCGCACCGC	3 420
Qy	2281.	GGCAAGTTGGCCCGTCTGTTCTGATTTGGACCAAGGTTAACCTGGGGGAGA	2340	Db	3361	CGGCACAGTCCTGGACCAAGGGAGGGCTGGAGGCTGCGCACCGC	3 420
Db	2281.	GGCAAGTTGGCCCGTCTGTTCTGATTTGGACCAAGGTTAACCTGGGGGAGA	2340	Qy	3421	TAGGCCTTCGGGATTCGCTACCGGACTAACCTCAAACTCGAGGAGCTGTCAG	3 480
Qy	2341.	CACCGGGGGCTGGGAATCATCATCTGGCCCTCCGCCCTGGGGAGGA	2400	Db	3421	TAGGCCTTCGGGATTCGCTACCGGACTAACCTCAAACTCGAGGAGCTGTCAG	3 480
Db	2341.	CACCGGGGGCTGGGAATCATCATCTGGCCCTCCGCCCTGGGGAGGA	2400	Qy	3481	CACTTGAGAAATCCCTTTATGGCAAGGCACTCCCATCGAGACATCAAGGGGGAG	3 540
Qy	2401.	GATACATCTGGACCGGCAAGCAGCCCTTGAAGGGAGGGCTAACCTGGCTA	2460	Db	3481	CACTTGAGAAATCCCTTTATGGCAAGGCACTCCCATCGAGACATCAAGGGGGAG	3 540
Db	2401.	GATACATCTGGACCGGCAAGCAGCCCTTGAAGGGAGGGCTAACCTGGCTA	2460	Qy	3541	GCACCTCATTTCTGGCATTCAGAGGAAATGTGTAGAGCTGTCCGG	3 600
Qy	2461.	TACGGCTTACCTCCAAAGACGGCTAACATCACTAGCTCACAG	2520	Db	3541	GCACCTCATTTCTGGCATTCAGAGGAAATGTGTAGAGCTGTCCGG	3 600
Db	2461.	TACGGCTTACCTCCAAAGACGGCTAACATCACTAGCTCACAG	2520	Qy	3661	CCCGGAGCTCATGGCTTAGCATATACCGGGCTTACGGGATTCAGCTCAACCTAG	3 660
Qy	2521.	CCGGGACAGGAACGGTGGGGAGGCTTACCGGAAACAGATCTT	2580	Db	3661	CCCGGAGCTCATGGCTTAGCATATACCGGGCTTACGGGATTCAGCTCAACCTAG	3 660
Db	2521.	CCGGGACAGGAACGGTGGGGAGGCTTACCGGAAACAGATCTT	2580	Qy	3661	CGAGAGCTCATGGCTTAGCATATACCGGGCTTACGGGATTCAGCTCAACCTAG	3 720
Qy	2581.	CCTGGCGACCTGCGCTAACGGGCTTACGGGAGGGCTAACAGAAC	2640	Db	3661	CGAGAGCTCATGGCTTAGCATATACCGGGCTTACGGGATTCAGCTCAACCTAG	3 720
Db	2581.	CCTGGCGACCTGCGCTAACGGGAGGGCTTACGGGAGGGCTAACAGAAC	2640	Qy	3721	CTCAGTGTATGCACTGCAATCATGTGTCACCTGGCTGACCCAC	3 780
Qy	2641.	CCTTGCGGCCAACAGGGCAATCAACAAATSTACACAACTGGACAGAACCTCGT	2700	Db	3721	CTCAGTGTATGCACTGCAATCATGTGTCACCTGGCTGACCCAC	3 780
Db	2641.	CCTTGCGGCCAACAGGGCAATCAACAAATSTACACAACTGGACAGAACCTCGT	2700	Qy	3781	CTTCACCAATTGGACAGACGGCTGGCAACAGGCGCTGGCTGAGGGAGGG	3 840
Qy	2701.	CGGTGGCAAGGGCCCTCCGGGGGGGGGGGGGGGGGGGGGGGGGGGG	2760	Db	3781	CTTCACCAATTGGACAGACGGCTGGCAACAGGCGCTGGCTGAGGGAGGG	3 840
Db	2701.	CGGTGGCAAGGGCCCTCCGGGGGGGGGGGGGGGGGGGGGGGGGGGG	2760	Qy	3841	CAGGACTGGTAGGGCAGGATGGCAATTACAGGTTCTGACCTGGCTGAGGGGG	3 900
Qy	2761.	CCTTTACCTGGTCAAGGGAGATGGGATTCAGGGCTTCTGGGGGGGGGG	2820	Db	3841	CCAGACTGGTAGGGCAGGATGGCAATTACAGGTTCTGACCTGGCTGAGGGGG	3 900
Db	2761.	CCTTTACCTGGTCAAGGGAGATGGGATTCAGGGCTTCTGGGGGGGG	2820	Qy	3901	GGGCGATGTTGATGCTGGCTGGGAGGACTCTGGGGCTTACCTGGCTGAGGGTACGA	3 960
Qy	2821.	GGGAGCCACTCTCCGGGGCACTGGGGCTTCTGGGGGGTCCACT	2880	Db	3901	GGGCGATGTTGATGCTGGGGCTTACCTGGCTGAGGGTACGA	3 960
Db	2821.	GGGAGCCACTCTCCGGGGCACTGGGGCTTCTGGGGGGTCCACT	2880	Qy	3961	GCTCACGCCCTGGGGCACTGGGGCTTACCTGGCTGAGGGTACGA	4 020
Qy	2881.	GCTCACGCCCTGGGGCACTGGGGCTTACCTGGCTGAGGGTACGA	2940	Db	3961	GCTCACGCCCTGGGGCACTGGGGCTTACCTGGCTGAGGGTACGA	4 020

4021	CGCTGCGAAGGCCATCTGGAGGTCTGGAGGCTTACGGCTCACCATAGA	4080	Db	5101	GGAGGGGCTGTGACTGGATGAACGGCTGTGGCTTCGGGGTAACCAZGT	5160
4021	CGTCGCGAACATCTGGAGGTCTGGAGGCTTACGGCTCACCATAGA	4080	Qy	5161	CTCCCCAACGACTATGTGCTGAGCGAGGCTGAGCAGTGTACTCGATCCCTC	5220
4081	CGCCCATTTCTGCCAGACTAAGCAGCAGGAGAACATTCCTTACGGCTCACCATAGA	4140	Db	5161	CTCCCCAACGACTATGTGCTGAGCGAGGCTGAGCAGTGTACTCGATCCCTC	5220
4081	CGCCCATTTCTGCCAGACTAAGCAGCAGGAGAACATTCCTTACGGCTCACCATAGA	4140	Qy	5221	TAGTCTTACCATCACTCACTAGCTGCTGAAGGGCTTACCACTGGGATTAAGCTGCT	5280
4141	CGAGGTTACGGCTGCGCAAGGCTCAGGCTTACCTCCATGGGACAAATGGGAA	4200	Db	5221	TAGTCTTACCATCACTCACTAGCTGCTGAAGGGCTTACCACTGGGATTAAGCTGCT	5280
4141	CGAGGTTACGGCTGCGCAAGGCTCAGGCTTACCTCCATGGGACAAATGGGAA	4200	Qy	5281	CACGCATGCTCGGGCTGAGGTTGGATAGAGATGTTGGATAGCAGGGTGTGAC	5340
4201	GRTGCTCATAGCCTAAGCCCTAACGGCTTACGGTCAACGGCCACGGCTTACGGTCAACGGGAA	4260	Db	5281	CACGCATGCTCGGGCTGAGGTTGGATAGAGATGTTGGATAGCAGGGTGTGAC	5340
4201	GRTGCTCATAGCCTAAGCCCTAACGGCTTACGGTCAACGGCCACGGCTTACGGTCAACGGGAA	4260	Qy	5341	TGATTTCAGACCTGCTCCAGTCAGCTGGCTCCAGTCAGCTGGGGATGCCCTCTT	5400
4261	AGCGTTCAAAAGGAGTTTACTACCACCAACCCATAACCAAATACTCATGCGATCAT	4320	Db	5341	TGATTTCAGACCTGCTCCAGTCAGCTGGCTCCAGTCAGCTGGGGATGCCCTCTT	5400
4261	AGCGTTCAAAAGGAGTTTACTACCACCAACCCATAACCAAATACTCATGCGATCAT	4320	Qy	5401	CTCATGCAAAGGGTACAGGGACTCTGGGGGACGGCATATGCAAACCCCTG	5460
4321	GPGGGCTCACCTGGAGGCTCACGGCACTGGGCTCTGTAGGGAGCTCTAGCAG	4380	Db	5401	CTCATGCAAAGGGTACAGGGACTCTGGGGGACGGCATATGCAAACCCCTG	5460
4321	GTCGGCTGAACCTGGGGTCTGGCTGACAGGAGCTGGGGATGCTTAGCAG	4380	Qy	5461	CCCATGGGACACGATACGGGACATGCTGAAACTGTTCCATGGGGATGTGGGCC	5520
4381	TCTGGCCCGTATTGCCGACACAGGAAGCTGGAGGATCATCTGTC	4440	Db	5461	CCCATGGGACACGATACGGGACATGGGATGTGGGCC	5520
4381	TCTGGCTGGTATTGCCGACACAGGAAGCTGGAGGATCATCTGTC	4440	Qy	5521	TAGGACCTGTAGTAACAGCTGGCATGGAATTTCCACATTACGGGTACACAGGGCCC	5580
4441	CGAAAAGGGCCATCATTCGGACACGGGAAGCTCTTACCGGGAAGTCTGATGAGATGGA	4500	Db	5521	TRAGGACCTGTAGTAACAGCTGGCATGGAATTTCCACATTACGGGTACACAGGGCCC	5580
4441	CGAAAAGGGCCATCATTCGGACACGGGAAGCTCTTACCGGGAAGTCTGATGAGATGGA	4500	Qy	5581	CTGCAACCCCTCCGGCCGAAATTATTCTAGGGGCTGTGGCTGCTGAGAA	5640
4501	AGAGTGCCCTCACACTCCCTACATGAAAGGGGATGCACTCCCGAACAACTCAA	4560	Db	5581	CTGCAACCCCTCCGGCCGAAATTATTCTAGGGGCTGTGGCTGCTGAGAA	5640
4501	AGAGTGCCCTCACACTCCCTACATGAAAGGGGATGCACTCCCGAACAACTCAA	4560	Qy	5641	GTAACCTGGAGETTACCGGGTGGGGATTTCACPACTGTGAGGGCATGACCTGACAA	5700
4561	ACGAAAGGCGGCAATCGGTGCTGCAAAAGCCAGGAGTGGCTCCGT	4620	Db	5641	GTACCGTGAGGTACCGGAATGGGATTTCACACTGTGAGGGCATGACCTGACAA	5700
4561	ACGAAAGGCGGCAATCGGTGCTGCAAAAGCCAGGAGTGGCTCCGT	4620	Qy	5701	CGTAAGTGTCCCGTGTAGGTTCCGGCCGCCAAATTCTTCACAGAATGTTGGCTCG	5760
4621	GCTGGAATCACAAGTGGGGACCTCTGGCAAGCCATATGGGAAATTCA	4680	Db	5701	CGTAAGTGTCCCGTGTAGGTTCCGGCCGCCAAATTCTTCACAGAATGTTGGCTCG	5760
4621	GCTGGAATCACAAGTGGGGACCTCTGGCAAGCCATATGGGAAATTCA	4680	Qy	5761	GTTGCAAGGTACGTTCAAGGGGACCTCTGGCTGGCTGGCTGGCTGGCTGG	5820
4681	CACGGGATACATATTAGCAGGCTCTCCACTCTGGCCAAACCCGGGATAGCATC	4740	Db	5761	GTTGCAAGGTACGTTCACTGGGGATCTGGCTGGCTGGCTGGCTGGCTGG	5820
4681	CACGGGATACATATTAGCAGGCTCTCCACTCTGGCCAAACCCGGGATAGCATC	4740	Qy	5821	CGGGCTCAATCAATCTGGGTGGCTACAGGTCCATGGGACCCGAGCTAG	5880
4741	ACTGATGGGATCACGGCTTACATACGGCTTACGGCTTACGGCTTACGGCTT	4800	Db	5821	CGGGCTCAATCAATCTGGGTGGCTACAGGTCCATGGGACCCGAGCTAG	5880
4741	ACTGATGGGATCACGGCTTACGGCTTACGGCTTACGGCTTACGGCTT	4800	Qy	5881	AGTGTGCTACTTCATGTCTCCACTACGGGGAGACGGCTTAAGGGCTAG	5940
4801	TAACATCTGGGGATGGTGGCCGCCAACTTGTGCTTCCCTGGCTTACACCTCTCTG	4860	Db	5881	AGTGTGCTACTTCATGTCTCCACTACGGGGAGACGGCTTAAGGGCTAG	5940
4801	TAACATCTGGGGATGGTGGCCGCCAACTTGTGCTTCCCTGGCTTACACCTCTCTG	4860	Qy	5941	GCTGGCCAGGGGATCTCCCTCTGGCTGGCTGGCTGGCTGGCTGGCTGG	6000
4861	CGTAGGGCGGGGATCGTGGAGGGGATGGTGGCTGGCTGGAAAGTGTGTT	4920	Db	5941	GCTGGCCAGGGGATCTCCCTCTGGCTGGCTGGCTGGCTGGCTGGCTGG	6000
4861	CGTAGGGCGGGGATCGTGGAGGGTGGCTGGCTGGAAAGTGTGTT	4920	Qy	6061	CTCCTGAGGGAAACTGCACTACCGCTCATGCTGGCTGGCTGGCTGG	6120
4981	GACGGGAGATGCCCTCACCGGAGTCTGGCTTACCTACCTGGTATGCTCC	5040	Db	6061	CAACCTCTGGGGGAGATGGGGAGCTGGCTGGCTGGCTGGCTGGCTGG	6120
4981	GACGGGAGATGCCCTCACCGGAGTCTGGCTTACCTACCTGGTATGCTCC	5040	Qy	6121	GCTAGTAAATTGGATGACCTGGGGCTTCAAGGGGAGGATGAGGGAAATGATC	6180
4981	GACGGGAGATGCCCTCACCGGAGTCTGGCTTACCTACCTGGTATGCTCC	5040	Db	6121	GCTAGTAAATTGGATGACCTGGGGCTTCAAGGGGAGGATGAGGGAAATGATC	6180
5041	TGGCCCTAGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGG	5100	Qy	6181	CGTCCGGGGAGATGCCCTCACCGGAGTCTGGCTGGCTGGCTGGCTGG	5160
5041	TGGCCCTAGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGG	5100	Db	6181	CGTCCGGGGAGATGCCCTCACCGGAGTCTGGCTGGCTGGCTGGCTGG	5160

Db	6181	CGTTCGGGGAGATCCTCGGAGGGTCC2GGAAATTCCCTCGGGATGCCATATGGC	6240	Qy	7321	GAATGAGATCCCTGTGAGGAGTCATACTACCAATTTGTGACTTGGCCCCGAAAGCCAG	7380
Qy	6241	ACGCCGGAATTACACCCCTCACTGTTAGAGTCCTGGAAAGGCCGGACTACCTCCCTC	6300	Db	7321	GAATGAGATCCCTGTGAGGAGTCATACTACCAATTTGTGACTTGGCCCCGAAAGCCAG	7380
Db	6241.	ACGCCGGAATTACACCCCTCACTGTTAGAGTCCTGGAAAGGCCGGACTACCTCCCTC	6300	Qy	7381	ACAGGCCATAAGGTGGCTCAAGGGGGCTTACATGGGACCCCTGACTAATCTAA	7440
Qy	6301	AGTGTACCGGGTCCCTGGCCMCCAAAGCCCCTCCGATACACCTCCACGGAG	6360	Db	7381	ACAGGCCATAAGGTGGCTCAAGGGGGCTTACATGGGACCCCTGACTAATCTAA	7440
Db	6301	AGTGTACCGGGTCCCTGGCCMCCAAAGCCCCTCCGATACACCTCCACGGAG	6360	Qy	7441	AGGGCAGAACCTGGGGTACTAGGACAGGAGCTGGGG	7500
Qy	6361	GAAGGAGAGGTCCTGTCAGATTAACCGTGTCTTGCTGCTTGGGGAGTCGCA	6420	Db	7441	AGGGCAGAACCTGGGGTACTAGGACAGGAGCTGGGG	7500
Db	6361.	GAAGGAGAGGTCCTGTCAGATTAACCGTGTCTTGCTGCTTGGGGAGTCGCA	6420	Qy	7501	TAATACCTCACGTTACAGTCAAGGGCTTGAGCTGGCTGAGCTGGAGCTCAGGA	7560
Qy	6421	AAAGACCTTCGGCAAGCTCCGAATCGTCCGGCGTGCACACGGGACGGAAACGGCCTCTC	6480	Db	7501	TAATACCTCACGTTACAGTCAAGGGCTTGAGCTGGCTGAGCTGGAGCTCAGGA	7560
Db	6421.	AAAGACCTTCGGCAAGCTCCGAATCGTCCGGCGTGCACACGGGACGGAAACGGCCTCTC	6480	Qy	7561	CRCACASATGCTGTGATTCGGAGACGACCTGTTGTAAGGGGGACCCA	7620
Qy	6481	TGACAGCCCTCCACAGGGGCAACGGGATCCGACGCTGTGACTTCCTCCATGCA	6540	Db	7561	CRCACASATGCTGTGATTCGGAGACGACCTGTTGTAAGGGGGACCCA	7620
Db	6481	TGACAGCCCTCCACAGGGGCAACGGGATCCGACGCTGTGACTTCCTCCATGCA	6540	Qy	7621	ACAGGAGAGGGGAGCTACGGGCTTACGGGCTTACGGGCTTACGGGCTTACGGGCTT	7680
Qy	6541	CCCCCTTGGGGAGCCGGGATCCGATCTCAGGCGGTCCTACATGGACGGGCCCT	6600	Db	7621	ACAGGAGAGGGGAGCTACGGGCTTACGGGCTTACGGGCTTACGGGCTTACGGGCTT	7680
Db	6541.	CCCCCTTGGGGAGCCGGGATCCGATCTCAGGCGGTCCTACATGGACGGGCCCT	6600	Qy	7681	TGGGACCCGCCAACAGATAACGACTTGGAGTGTATAACATGCTCTCCAAATGT	7740
Qy	.	.	.	Db	7681	TGGGACCCGCCAACAGATAACGACTTGGAGTGTATAACATGCTCTCCAAATGT	7740
Db	6601	CGAGSGAGGTTAGTGGGAGCTGCTGATGTCCTACATGGACGGGCCCT	6660	Qy	7741	GTCAGTCGGCAGATGCTGGAAAAGGTGTAAATATCTACCGTGACCCACAC	7800
Db	6601.	CGAGSGAGGTTAGTGGGAGCTGCTGATGTCCTACATGGACGGGCCCT	6660	Qy	7741	GTCAGTCGGCAGATGCTGGAAAAGGTGTAAATATCTACCGTGACCCACAC	7800
Qy	6661	GATCAGCCATGCCCTGGGGATCCGCCATCAATGCACTGAGCAAACCTTT	6720	Db	7780	CCCCCTTGGCCGGCTGGGGCTGGGGCTGGGGCTGGGGCTGGGGCTGGGG	7860
Db	6661.	GATCAGCCATGCCCTGGGGATCCGCCATCAATGCACTGAGCAAACCTTT	6720	Qy	7780	CCCCCTTGGCCGGCTGGGGCTGGGGCTGGGGCTGGGGCTGGGGCTGGGG	7860
Qy	6721	GCTCGGTCAACAACTTGTGTCATGTCACATCTCCAGGGAAACCCAGGA	6780	Db	7881	CCCCCTTGGCCGGCTGGGGCTGGGGCTGGGGCTGGGGCTGGGGCTGGGG	7860
Db	6721.	GCTCGGTCAACAACTTGTGTCATGTCACATCTCCAGGGAAACCCAGGA	6780	Qy	7881	CAACATCATGATGATGGCCACCTGGGGCAAGGAAGCTGGGGCTGGGG	7920
Qy	6781	GAAGGTCACCTTGTGAGACTGGAGCTCCAGGAAAGGGACTGTCGCAAGGA	6840	Db	7881	CAACATCATGATGATGGCCACCTGGGGCAAGGAAGCTGGGGCTGGGG	7920
Db	6781.	GAAGGTCACCTTGTGAGACTGGAGCTCCAGGAAAGGGACTGTCGCAAGGA	6840	Qy	7921	CTCCATCTCTTAGCTGGAGACACTGGGGCTGGGGCTGGGGCTGGGG	7980
Qy	6841	GATGAGGGCAAGGGTCCACAGTAAGGCTAACCTCTGGGGAAACCTGTPA	6900	Db	7921	CTCCATCTCTTAGCTGGAGACACTGGGGCTGGGGCTGGGGCTGGGG	7980
Db	6841.	GATGAGGGCAAGGGTCCACAGTAAGGCTAACCTCTGGGGAAACCTGTPA	6900	Qy	7981	CTCTTACCTCCATTGGGCAAGGACTCTGGGGCTGGGGCTGGGGCTGGGG	8040
Qy	6901	GCTGACGCCCTTAACTGGCCAGATCTAAATTGGCTTGGGCAAGGAGCTTC	6960	Db	7981	CTCTTACCTCCATTGGGCAAGGACTCTGGGGCTGGGGCTGGGGCTGGGG	8040
Db	6901.	GCTGACGCCCTTAACTGGCCAGATCTAAATTGGCTTGGGCAAGGAGCTTC	6960	Qy	8041	CGGATTTTACCTCCATTGTTGGGGCTGGGGCTGGGGCTGGGGCTGGGG	8100
Qy	6961	CCTATCCAGGAAGGGCTTAAACCAGATCCCTCCGGCTTGGGCAAGGAGCAC	7020	Db	8041	CGGATTTTACCTCCATTGTTGGGGCTGGGGCTGGGGCTGGGGCTGGGG	8100
Db	6961.	CCTATCCAGGAAGGGCTTAAACCAGATCCCTCCGGCTTGGGCAAGGAGCAC	7020	Qy	8101	GAACATTTGGTACCGCCCTGGGCAAGGACTCTGGGGCTGGGGCTGGGG	8160
Qy	7021	TGAGCACCAATTGCAACCACTATGGCAAATAATGGGTTCTGGTCCAAACCA	7080	Db	8101	GAACATTTGGTACCGCCCTGGGCAAGGACTCTGGGGCTGGGGCTGGGG	8160
Db	7021.	TGAGCACCAATTGCAACCACTATGGCAAATAATGGGTTCTGGTCCAAACCA	7080	Qy	8161	GCFACTGTCCTCCAGTTGGGACTCTGGGGCTGGGGCTGGGGCTGGGG	8220
Qy	7081	GAAGGGGGCGCAAGGCCAGTCCGCTTATCGGATTTGGGTTCTGGTGTG	7140	Db	8161	GCFACTGTCCTCCAGTTGGGACTCTGGGGCTGGGGCTGGGGCTGGGG	8220
Db	7081.	GAAGGGGGCGCAAGGCCAGTCCGCTTATCGGATTTGGGTTCTGGTGTG	7140	Qy	8221	AAGACCAAGGCTAACACTCACCCATCCGGCTTGGGGCTGGGGCTGGGG	8280
Qy	7141	CGAGAAAATGGCCCTTTAATGAGGGTCCACCCCTCCCTCAGGGCTGGTGA	7200	Db	8221	CGTCTGGCTGGGGTACGCTGGGGCTGGGGCTGGGGCTGGGGCTGGGG	8340
Db	7141.	CGAGAAAATGGCCCTTTAATGAGGGTCCACCCCTCCCTCAGGGCTGGTGA	7200	Qy	8281	ATACGATTCACATFACTCTGGACAGGGGCTGGTGAATGGGAAAC	7260
Qy	7201	ATACGATTCACATFACTCTGGACAGGGGCTGGTGAATGGGAAAC	7260	Db	8281	ATACGATTCACATFACTCTGGACAGGGGCTGGTGAATGGGAAAC	7260
Db	7201.	ATACGATTCACATFACTCTGGACAGGGGCTGGTGAATGGGAAAC	7260	Qy	8341	CTGETTCAGTGGCTGCTACTCTCATGCTGAGGTTAGGGATCTACCTCCAA	8400
Qy	7261	GAAGAAATGCCCTATGGCTTCGATATGAACCCGTTTAACTCAACGGTCAC	7320	Db	8341	CTGETTCAGTGGCTGCTACTCTCATGCTGAGGTTAGGGATCTACCTCCAA	8400
Db	7261.	GAAGAAATGCCCTATGGCTTCGATATGAACCCGTTTAACTCAACGGTCAC	7320				

1442	GTCCTCTGGAGGTTCTGAGAACAAACCGCTCTGTAGCGACCCTTGAGGCCAGGG 1501	Qy	2522	GGGAGGACCAAGGGTCAAGGGGGAGGCTGGGAGCTGGGGCTCAAAAGACCC 2581
1442	GTCCTCTGGAGGTTCTGAGAACAAACCGCTCTGTAGCGACCCTTGAGGCCAGGG 1501	Db	2582	CTGGGGACTCTGGGTCAATGGCTGTGTTGGACTCTGTATCATGGTGGCCTCAAAAGACCC 2641
1502	AACCCCCAACCTGGCACAGGTGCTCTGGGCAAAAACACCGTATAAGATAACCT 1561	Qy	2582	CTGGGGACTCTGGGTCAATGGCTGTGTTGGACTCTGTATCATGGTGGCCTCAAAAGACCC 2641
1502	AACCCCCAACCTGGCACAGGTGCTCTGGGCAAAAACACCGTATAAGATAACCT 1561	Db	2582	CTGGGGACTCTGGGTCAATGGCTGTGTTGGACTCTGTATCATGGTGGCCTCAAAAGACCC 2641
1562	GCAAGGGGCAACACCCAGTGCACCGTGTGACTGGATAGTTGTGAAAGGTCAA 1621	Qy	2642	CTTGGGGCCAAAAGGGCCAAATACCCAAATGTAACCAATGTGACCTCGTC 2701
1562	GCAAGGGGCAACACCCAGTGCACCGTGTGACTGGATAGTTGTGAAAGGTCAA 1621	Db	2642	CTTGGGGCCAAAAGGGCCAAATACCCAAATGTGACCTCGTC 2701
1622	TGGCTCTCTCAAGGTATCAAAGGGGCTGAGGATGCCAGAAGTACCCATGT 1651	Qy	2702	GGCTGCAAGGGCCCCGGGGCGCCTTCCCTGACACCATGACCTCGGAGCTCGTCGGAC 2761
1622	TGGCTCTCTCAAGGTATCAAAGGGGCTGAGGATGCCAGAAGTACCCATGT 1651	Db	2702	GGCTGCAAGGGCCCCGGGGCGCCTTCCCTGACACCATGACCTCGGAGCTCGTCGGAC 2761
1681	ATGGATCTGATCTGGGCTCTGGTGCACATGGCTTACATGTGTTAGTGAGGTTAAA 1741	Qy	2762	CTTGTACTTGGTACAGGGCATGCCATGGCTTCTGGGCTCTGGGCTCTGGGTT 2821
1682	ATGGATCTGATCTGGGCTCTGGTGCACATGGCTTACATGTGTTAGTGAGGTTAAA 1741	Db	2762	CTTGTACTTGGTACAGGGCATGCCATGGCTTCTGGGCTCTGGGCTCTGGGTT 2821
1742	AACGCTTAGGCCCCGAAACCGGAACTGGTTTCTTGAACACCGATAATAAC 1801	Qy	2822	GGGAGGCTACTCTCCCAGGCCATGGCTTCTGGGCTCTGGGCTCTGGGTT 2881
1742	AACGCTTAGGCCCCGAAACCGGAACTGGTTTCTTGAACACCGATAATAAC 1801	Db	2822	GGGAGGCTACTCTCCCAGGCCATGGCTTCTGGGCTCTGGGCTCTGGGTT 2881
1802	ATGGACGGGAGATGGCAGGATCTGGAGGATCTGGGTTTCTTGAAGGTGATCTTG 1861	Qy	2882	CTCTGGCCCTGGGGAGCCTGTTGGGCTATCTTGGGCTCTGGGCTCTGGGTT 2941
1802	ATGGACGGGAGATGGCAGGATCTGGGTTTCTTGAAGGTGATCTTG 1861	Db	2882	CTCTGGCCCTGGGGAGCCTGTTGGGCTATCTTGGGCTCTGGGCTCTGGGTT 2941
1861	ACCTTGTCACCGCACTATAAGCTGTTCTGGCTAGGCTCTATGTTGTTACAATATT 1921	Qy	2942	GGGAGGCGGTGGACTTTGACCTGTTGGGCTGAGCTATGGAAACCACTATGGTCCCGGTC 3001
1862	ACCTTGTCACCGCACTATAAGCTGTTCTGGCTAGGCTCTATGTTGTTACAATATT 1921	Db	2942	GGGAGGCGGTGGACTTTGACCTGTTGGGCTGAGCTATGGAAACCACTATGGTCCCGGTC 3001
1922	ATCACAGGGCCGGGGCAC2CTGCAAGGTGGATCCCTCCCTCAACGTTGGGGGC 1981	Qy	3002	TTACCGACAACCTGGTCCCTGGGCTGAGCTGGGCTCTGGGCTCTGGGCTCTGGGCT 3061
1922	ATCACAGGGCCGGGGCAC2CTGCAAGGTGGATCCCTCCCTCAACGTTGGGGGC 1981	Db	3002	TTACCGACAACCTGGTCCCTGGGCTGAGCTGGGCTCTGGGCTCTGGGCTCTGGGCT 3061
1982	CGCATGGCCCTCATCTCCCTACGTGCGGATCACCCAGAGTATCTTACCATCACC 2041	Qy	3062	GCCCCCTACTGGTAGGGCAAAAGGCACTAAAGGTGCCCTGGTATGAGCCCAAGGGPAT 3121
1982	CGCATGGCCCTCATCTCCCTACGTGCGGATCACCCAGAGTATCTTACCATCACC 2041	Db	3062	GCCCCCTACTGGTAGGGCAAAAGGCACTAAAGGTGCCCTGGTATGAGCCCAAGGGPAT 3121
2042	AAAATCTGCTGGGCAATCTGGGCTAACCTGGGACTATGGTACCTGGTACCTGG 2101	Qy	3122	AAGGTCCTTGGCTGAACTCCCTAGGTTGGGCTGCTGGGCTGCTGGGCTATGGTCT 3181
2042	AAAATCTGCTGGGCAATCTGGGCTAACCTGGGACTATGGTACCTGGTACCTGG 2101	Db	3122	AAGGTCCTTGGCTGAACTCCCTAGGTTGGGCTGCTGGGCTGCTGGGCTATGGTCT 3181
2102	CGCTACTTCTGGGGCAC2CTGCAAGGTGGATCTGGCTGCTGTTGGGCTGTTGGCT 2161	Qy	3182	AAGGCACATGGTATCTGGGCTGCTGGGCTGCTGGGCTGCTGGGCTGCTGGGCT 3241
2102	CGCTACTTCTGGGGCAC2CTGCAAGGTGGATCTGGCTGCTGTTGGGCTGTTGGCT 2161	Db	3182	AAGGCACATGGTATCTGGGCTGCTGGGCTGCTGGGCTGCTGGGCTGCTGGGCT 3241
2161	GGGGCTCATTTATGTCCAATGGCTCTCATGAAGTTGGCTGCTGTTGGGCTGTTGGCT 2221	Qy	3242	CCCATCAGCTACTCCACCTATGGCAAGTCTGGGCTGCTGGGCTGCTGGGCTGCTGGGCT 3301
2161	GGGGCTCATTTATGTCCAATGGCTCTCATGAAGTTGGCTGCTGTTGGGCTGTTGGCT 2221	Db	3242	CCCATCAGCTACTCCACCTATGGCAAGTCTGGGCTGCTGGGCTGCTGGGCTGCTGGGCT 3301
2221	TATGACATCATATAATGTGATGGTGGCTGCTGGGACTCTGGGCTCTGGGCT 2281	Qy	3302	TATGACATCATATAATGTGATGGTGGCTGCTGGGACTCTGGGCTCTGGGCT 3361
2222	TATGACCATCTACCCACTGGGGACTCTGGGCTCTGGGACTCTGGGCTCTGGGCT 2281	Db	3302	TATGACATCATATAATGTGATGGTGGCTGCTGGGACTCTGGGCTCTGGGCT 3361
2282	CGAGTTGAGCCCTGGTCTCTCTGATATGGACCAAGGTTATACCGTGGGGCAGAC 2341	Qy	3362	GGCACAGCTCTGGGACTCTGGGCTGCTGGGCTGCTGGGCTGCTGGGCTGCTGGGCT 3421
2282	CGAGTTGAGCCCTGGTCTCTCTGATATGGACCAAGGTTATACCGTGGGGCAGAC 2341	Db	3362	GGCACAGCTCTGGGACTCTGGGCTGCTGGGCTGCTGGGCTGCTGGGCTGCTGGGCT 3421
2342	ACCGGGGCTACTCCAAAGAGCCGGCTTACCTGGGGCTGCTGGGGGAGGAG 2401	Qy	3422	ACGGCTTGGGAAATCCCTTTATGGCAAGCCATCCCATGAGGGTGGCTCTGGCCAGC 3481
2342	ACCGGGGCTACTCCAAAGAGCCGGCTTACCTGGGGCTGCTGGGGGAGGAG 2401	Db	3422	ACGGCTTGGGAAATCCCTTTATGGCAAGCCATCCCATGAGGGTGGCTCTGGCCAGC 3481
2401	ATACATCTGGGACCGSCGACAGCTGGGGACTCTGGGCTCTGGGACTCTGGGCT 2461	Qy	3482	ACTGGAGAAATCCCTTTATGGCAAGCCATCCCATGAGGGTGGCTCTGGCCAGC 3541
2402	ATACATCTGGGACCGSCGACAGCTGGGGACTCTGGGCTCTGGGACTCTGGGCT 2461	Db	3482	ACTGGAGAAATCCCTTTATGGCAAGCCATCCCATGAGGGTGGCTCTGGCCAGC 3541
2402	ATACATCTGGGACCGSCGACAGCTGGGGACTCTGGGCTCTGGGACTCTGGGCT 2461	Qy	3542	ACCTCATTTCTGCACTCCAGAGAAATGTGATGAGCTGGCTCCGGGAAGGCTGTCGGGC 3601
2462	ACGGCTACTCCAAAGAGCCGGCTTACCTGGGGCTGCTGGGGGAGGAG 2521	Qy	3542	ACCTCATTTCTGCACTCCAGAGAAATGTGATGAGCTGGCTCCGGGAAGGCTGTCGGGC 3601
2462	ACGGCTACTCCAAAGAGCCGGCTTACCTGGGGCTGCTGGGGGAGGAG 2521	Db	3602	CTGGGACTCAATGCTGTGATCATTTACGGGGCTTGTGATGATCGTATACCAACTAAC 3661

Db	3602	CTCGGACTCTAATGCTGTAGCATATTACGGGGCTTGTATCCGTATAACCAACTAGC	3661	Qy	4742	CTGATGGCATTCAAGCTCTATCACAGGCCGTCACCAACAAATAACCCCTCCGTGTT	4801
Qy	3662	GGAGACGCTTAATGCTGTAGCATACAGCAACGGCAACCGTCTATAGGGGTTAACGGGATTTGAC	3721	Db	4742	CTGATGGCATTCAAGCTCTATCACAGGCCGTCACCAACAAATAACCCCTCCGTGTT	4801
Db	3662	GGAGACGCTTAATGCTGTAGCATACAGCAACGGCAACCGTCTATAGGGGTTAACGGGATTTGAC	3721	Qy	4802	AACATCTGGGGGATGGGGCCGCCAACTTGTCTCCAGGCCGTCACCAACAAATAACCCCTCCGTGTT	4861
Qy	3722	TCACTGATGACTGCAATCATGTGTACCCAGAACAGTGACTCTAGCGCTGAACCCAC	3781	Db	4802	AACATCTGGGGGATGGGGCCGCCAACTTGTCTCCAGGCCGTCACCAACAAATAACCCCTCCGTGTT	4861
Db	3722	TCACTGATGACTGCAATCATGTGTACCCAGAACAGTGACTCTAGCGCTGAACCCAC	3781	Qy	4862	GTAGGGCCGGCATCCTGGGGGGATGGGGCCACAGCAGGAGGATGGGGCTGTCGTTGGAGAAGTGTGTG	4921
Qy	3782	TTCACCATTTGAGACCGACCGTCTCCACAGAACGGGTCTCAAGCTCCACGGCGAGGC	3841	Db	4862	GTAGGGCCGGCATCCTGGGGGGATGGGGCCACAGCAGGAGGATGGGGCTGTCGTTGGAGAAGTGTGTG	4921
Db	3782	TTCACCATTTGAGACCGACCGTCTCCACAGAACGGGTCTCAAGCTCCACGGCGAGGC	3841	Qy	4922	GATATTGGAGAGTTATGGCAGGGTGTGGAGCAGGGTGTGGAGGGCTGTCGTTGGCTTAAGGCATG	4981
Qy	3842	AGGACTGTAGGGCAGGATGGGGATTCTGGGTTCTGGGAGCTGGCTATAGGGGCTGTCGTTGGTAGAG	3901	Db	4922	GATATTGGAGAGTTATGGCAGGGTGTGGAGCAGGGTGTGGAGGGCTGTCGTTGGCTTAAGGCATG	4981
Db	3842	AGGACTGTAGGGCAGGATGGGGATTCTGGGTTCTGGGAGCTGGCTATAGGGGCTGTCGTTGGTAGAG	3901	Qy	4982	ACGGGGAGATGSCCTTCACCGAGGACCTGGTTAACCTACCCCTGTATCTCCCTCCCT	5041
Qy	3902	GGCATGTGTTGATCTCTGGGTTCTGGGTTCTGGGAGCTGGCTATAGGGGCTGTCGTTGGTAGAG	3961	Db	4982	ACGGGGAGATGSCCTTCACCGAGGACCTGGTTAACCTACCCCTGTATCTCCCTCCCT	5041
Db	3902	GGCATGTGTTGATCTCTGGGTTCTGGGTTCTGGGAGCTGGCTATAGGGGCTGTCGTTGGTAGAG	3961	Qy	5042	GCGCCCTAAGTGTGCTGGGGGATGAAACCGGCTGATAGGGCTGTCGTTGGGGTAACACAGTC	5101
Qy	3962	CTCAGCCCCGAGACCTCACTTGTGGGGCTTACTTAACACACAGGGTGGC	4021	Db	5042	GCGCCCTAAGTGTGCTGGGGGATGAAACCGGCTGATAGGGCTGTCGTTGGGGTAACACAGTC	5101
Db	3962	CTCAGCCCCGAGACCTCACTTGTGGGGCTTACTTAACACACAGGGTGGC	4021	Qy	5102	GAGGGGGCTGGGGGACTGGGGGATGAAACCGGCTGATAGGGCTGTCGTTGGGGTAACACAGTC	5161
Qy	4022	GTCAGCCCCGAGACCTCACTTGTGGGGCTTACTTAACACACAGGGTGGC	4081	Db	5102	GAGGGGGCTGGGGGATGAAACCGGCTGATAGGGCTGTCGTTGGGGTAACACAGTC	5161
Db	4022	GTCAGCCCCGAGACCTCACTTGTGGGGCTTACTTAACACACAGGGTGGC	4081	Qy	5162	TCCCCCAGCGCACTATGGCCCTGAGGGGACCTGGGTGACTCTAGATCCTGTCT	5221
Qy	4082	GCCCCATTGTCAGGAGCTTAACAGGGGGAGAACCTCCCTACTGTGAGGCTGATCATC	4141	Db	5162	TCCCCCAGCGCACTATGGCCCTGAGGGGACCTGGGTGACTCTAGATCCTGTCT	5221
Db	4082	GCCCCATTGTCAGGAGCTTAACAGGGGGAGAACCTCCCTACTGTGAGGCTGATCATC	4141	Qy	5222	AGCTTACCATCACTGCTGGGCTGAGGGCTTACCAAGTACGAGACTGTCTCC	5281
Qy	4142	CAGGTACCTGGCTGGGGCTCAGTTAGGTTGGGCTTCACTCTGGGAAACAAATGTGGAG	4201	Db	5222	AGCTTACCATCACTGCTGGGCTGAGGGCTTACCAAGTACGAGACTGTCTCC	5281
Db	4142	CAGGTACCTGGCTGGGGCTTCACTCTGGGAGGCTTCACTCTGGGAAACAAATGTGGAG	4201	Qy	5282	AGCCCAAGCTCGGCTGGGCTGAGGGCTTACCAAGTACGAGACTGTCTCC	5341
Qy	4202	TGTCCTCATGGGCTAAAGGCTTAACGGGGCTCAGGGTCTGGGAAACCCCTGACTGGAA	4261	Db	5282	AGCCCAAGCTCGGCTGGGCTGAGGGCTTACCAAGTACGAGACTGTCTCC	5341
Db	4202	TGTCCTCATGGGCTAAAGGCTTAACGGGGCTCAGGGTCTGGGAAACCCCTGACTGGAA	4261	Qy	5342	GATTTCAAGACCTGGCTCAGTCAGGGGACTCTGGGGGAGGATCTGGGGCT	5401
Qy	4262	GCGCTTCAAAACGGGGTTACTACCACACCCATAACCAAATAACAAACACCCATA	4321	Db	5342	GATTTCAAGGCTGGCTCAGTCAGGGGAGGATCTGGGGGAGGATCTGGGGCT	5401
Db	4262	GCGCTTCAAAACGGGGTTACTACCACACCCATAACCAAATAACAAACACCCATA	4321	Qy	5402	TCTATGTCACCTGGGCTGAGGGCTTACGGGAGGATCTGGGGGAGGATCTGGGGCT	5461
Qy	4322	TGGGTGACTCTGGGAGGTCTGGTCTGACAACAGGGGAGCTGGCTCATCTTGC	4381	Db	5402	TCTATGTCACCTGGGCTGAGGGCTTACGGGAGGATCTGGGGGAGGATCTGGGGCT	5461
Db	4322	TGGGTGACTCTGGGAGGTCTGGTCTGACAACAGGGGAGCTGGCTCATCTTGC	4381	Qy	5462	CCATGTGGAGGACAGATCACGGGACATCTGGGCTGAGGGGAGGATCTGGGGCT	5521
Qy	4382	CTGGCCGGCATCATTCGGCTGACAACAGGGGAGCTGGCTCATCTTGC	4441	Db	5462	CCATGTGGAGGACAGATCACGGGACATCTGGGCTGAGGGGAGGATCTGGGGCT	5521
Db	4382	CTGGGTGCTGATTTGGCTGACAACAGGGGAGCTGGCTCATCTTGC	4441	Qy	5522	AGGACCTGTGAAACCTGGGATGGACATCCCCTAACGGGACATCTGGGGCT	5581
Qy	4442	GGAAAGGCCGCCATCATTCGGCTGACAACAGGGGAGCTGGCTCATCTTGC	4501	Db	5522	AGGACCTGTGAAACCTGGGATGGACATCCCCTAACGGGACATCTGGGGCT	5581
Db	4442	GGAAAGGCCGCCATCATTCGGCTGACAACAGGGGAGCTGGCTCATCTTGC	4501	Qy	5582	TGAGCGCCCTCCGGCCAAATTATTCTGGGCTGAGGGGGCTGTCGAGGAG	5641
Qy	4502	GAGTGCCTCACACCTCCCTGCTGCAAACAGGGACCAAGAACACATTCAA	4561	Db	5582	TGAGCGCCCTCCGGCCAAATTATTCTGGGCTGAGGGGGCTGTCGAGGAG	5641
Db	4502	GAGTGCCTCACACCTCCCTGCTGCAAACAGGGACCAAGAACACATTCAA	4561	Qy	5642	TACGTGGAGGGTACGGGGTTACGGGCTGAGGGGATTTCCACTAACGGGATCAC	5701
Qy	4562	CAGAGGCAATCGGGTTGCTGCAAACAGGGACCAAGAACACATTCAA	4621	Db	5642	TACGTGGAGGGTACGGGGTTACGGGCTGAGGGGATTTCCACTAACGGGATCAC	5701
Db	4562	CAGAGGCAATCGGGTTGCTGCAAACAGGGACCAAGAACACATTCAA	4621	Qy	5702	GTAAAGGTCGGGCTGTCAGGCTTCAGGGGAGGATCTGGGGCTGTCGAGGAG	5761
Qy	4622	GTGGAAATCAGTGGGACCCATCATTCGGCTGACAACAGGGGAGCTGGGG	4681	Db	5702	GTAAAGGTCGGGCTGTCAGGCTTCAGGGGAGGATCTGGGGCTGTCGAGGAG	5761
Db	4622	GTGGAAATCAGTGGGACCCATCATTCGGCTGACAACAGGGGAGCTGGGG	4681	Qy	5762	TTCACAGGTAACCTGGGCTGTCACCTGGGGAGGGTACATTCGTGTC	5821
Qy	4682	AGGGGGATACATATTAGGGGTTGGGGCTGTCACCTGGGGAGGGTACATTC	4741	Db	5762	TTCACAGGTAACCTGGGCTGTCACCTGGGGAGGGTACATTCGTGTC	5821
Db	4682	AGGGGGATACATATTAGGGGTTGGGGCTGTCACCTGGGGAGGGTACATTC	4741				